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ABSTRACT

Elementary teachers and parents designed, implemented, and evaluated an intervention program directed toward positively influencing the self-esteem and confidence, sense of autonomy and independence, and social development and motivation of students with learning disabilities and at-risk students. This final project report describes the field testing of a comprehensive intervention program which includes strategies aimed at changing the task, authority, reward, grouping, evaluation, and time structures of children's classroom and home experiences. The specific program strategies were integrated within a theoretical perspective that places special importance on both the school and home experiences of the child. The project also examined the relationship between the teacher's parent involvement practices, parents' perceptions, support, and attitudes, and the child's resulting motivation. The first year of the project focused on program development with collaborative involvement of teachers and initial field-testing. In the second and third years of the project, the program as a whole and its components were evaluated to determine its preventative and remedial effectiveness. The project provides information on specific intervention strategies and techniques that can be assimilated into ongoing school and classroom activities. Appendices include a case study, teacher evaluations of the project, and a summary of a parent survey. (Contains 123 references.) (Author/CR)

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Final Report

Grant Title: Home and School Cooperation in Social and Motivational Development

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Home and School Cooperation in Social

and Motivational Development

Abstract

The purpose of this project was to design, implement and evaluate an intervention program directed toward positively influencing the self-esteem and confidence, sense of autonomy and independence, and social development and motivation of learning disabled children who are among the at-risk population of our schools. A comprehensive intervention program which includes strategies aimed at changing the task, authority, reward, grouping, evaluation, and time structures of children's classroom and home experiences was field tested. Both teachers and parents were involved in effecting these changes. The specific program strategies were integrated within a theoretical perspective that places special importance on both the school and home experiences of the child. A set of R & D activities which systematically tested strategies was involved, and a comprehensive evaluation was conducted to present evidence of the utility and validity of these strategies. The first year of the project focused on program development with collaborative involvement of teachers and initial field-testing. In the second and third year of the project, the program as a whole, and its various components, were evaluated through quasi-experimental, cross-sectional designs to determine its preventative and remedial effectiveness. The project details an intervention program with established information on its effectiveness and utility. The project also provides information on specific intervention strategies and techniques that can easily be assimilated into ongoing school and classroom activities.

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YEAR 1: CLASSROOM/TARGET INTERVENTION STUDY

Year 1: Classroom/TARGET Intervention Study

The recent literature on achievement motivation has described qualitatively different patterns of motivation in children which can be defined in relation to how they approach, engage in, and respond to learning situations. An adaptive or positive motivational pattern involves self-perceptions of competence, a willingness to deploy learning strategies that regulate attention, concentration, and information processing, and positive attitudes toward tasks and learning situations (Ames, 1992a; Brophy, 1986; Dweck, 1986; Elliott & Dweck, 1988; McCombs, 1984; Oka & Paris, 1987; Weiner, 1986). In contrast, motivational patterns that have been labeled as maladaptive or dysfunctional are rooted in negative self-perceptions, negative attitudes toward tasks or learning situations, ineffective strategies for dealing with difficult tasks or failure, and an avoidance of challenge or effort-demanding tasks. Because these patterns fail to sustain achievement activity over time, identifying potential contributing factors is especially important for underachieving and special populations (e.g. Carr, Borkowski, & Maxwell, 1991). These motivation-related variables not only mediate academic achievement as commonly defined by standardized test scores or grades (Walberg, 1984b), they contribute to long term commitment and investment in learning endeavors and a perception of oneself as an able learner.

The cumulative evidence suggests that children are more likely to develop and exhibit adaptive motivational patterns when they adopt a mastery achievement goal orientation. With a mastery goal orientation, students are engaged in the process of learning to develop new skills, improve their present level of skill, or attain a level of mastery based on an internalized set of standards (e.g. Ames, 1992a, Brophy, 1983; Meece, Blumenfeld, & Hoyle, 1988; Nicholls, 1989). The focus of attention is not on evaluating the adequacy of one's ability, instead it is on one's effort. One's sense of efficacy is based on the belief that effort will lead to learning and a sense of personal accomplishment. This goal orientation defined here as "mastery" has also been described by others and alternatively labeled as task involvement (Maehr & Nicholls, 1980; Nicholls, 1984)

or as a learning orientation (Dweck, 1986, Elliott & Dweck, 1988). Conceptions of motivation as personal investment (Maehr & Braskamp, 1986), self-regulated learning (Corno & Mandinach, 1983), and "motivation to learn" (Brophy, 1983) are consistent with a mastery goal orientation. This range of perspectives represents considerable convergence in the theoretical literature on achievement motivation.

Although the empirical literature has documented individual differences in students' endorsement of different types of achievement goals (e.g. Dweck, 1986, Elliott & Dweck, 1988; Meece, Blumenfeld, & Hoyle, 1988; Nicholls, Patashnick, & Nolen, 1985; Nolen, 1988), there is now a strong empirical base for suggesting that the structure of the classroom learning environment can promote or hinder the adoption of certain goal orientations (e.g. Ames & Archer, 1988; Mac Iver, 1987, 1988; Marshall & Weinstein, 1984, 1986; Stipek & Daniels, 1988; Stipek & Kowalski, 1989). What are these classroom structures, and what are the characteristics of these structures that contribute to a mastery goal orientation? The research literature (e.g., Brophy, 1987; Epstein, 1988a; Marshall, 1988; Marshall & Weinstein, 1984, 1986; Mac Iver, 1987, 1988; Meece, 1991; Rosenholtz & Simpson, 1984a, b; Ryan & Grolnick, 1986; Stipek & Daniels, 1988) now points to a number of structures that impact a range of motivational variables and especially, the degree to which ability versus effort becomes the attributional mediator of achievement-directed behavior. These structures include the design of tasks, the distribution of authority, the use of rewards, evaluation methods, grouping practices, and allocation of time.

At the same time, there has been little systemmatic examination of how these structures are defined in terms of instructional variables and student motivation. In other words, what instructional practices or strategies within each of these structures are likely to make a mastery goal salient to students? Moreover, how can these structures be modified or changed to foster adaptive motivational patterns in students. The absence of experimental research in actual classroom settings contributed to the present study which involved the design, implementation, and evaluation of

a classroom-based intervention that was directed toward increasing students' mastery-oriented experiences in the classroom with the goal of enhancing adaptive motivation patterns in students.

When we ask how we should go about creating a mastery-oriented learning environment and fostering an adaptive motivational pattern, we first need to look to how the classroom is structured for learning. How are tasks designed and delivered, how is student learning and performance evaluated, when are students recognized, how are students grouped, and how much autonomy is experienced by students in their learning? Some literature (e.g. Blumenfeld et al., 1982; Good & Brophy, 1987) suggests that the mastery orientation of many elementary school classrooms is weak at best. Children in the elementary grades are often more concerned with getting their work done than with what they are learning. They are focused on products and not process. Extrinsic inducements and rewards are used freely to entice children to complete their work, achieve 100%, and comply with rules and standards. Ability grouping within classrooms is the typical venue for delivering instruction and defining tasks. Students have few opportunities for making informed choices and evaluating their own progress toward goals. Social comparison is encouraged by the use of reward systems and public recognition.

Nevertheless, the literature is rich with principles, strategies and recommendations for fostering a mastery orientation and positive motivation in students. The apparent absence of research-into-practice underscores the need for classroom intervention research as difficult as it may be. For this project, we developed a framework for defining a mastery goal orientation in relation to classroom structures and instructional practices and designed an intervention program for translating the framework into actual practice. This classroom-based project evolved over a three-year period during which refinements in the intervention program and evaluation process occurred.

Defining the Classroom Structures

The research literature on achievement goals (e.g. Ames & Archer, 1988; Dweck, 1986, Elliott & Dweck, 1988; Nicholls, 1984) offers a range of principles that can guide the design of a mastery-oriented classroom structure. Moreover, the broader literature on achievement motivation is rich with strategies that have been linked to specific (positive) motivational processes and that are also conceptually consistent with a mastery achievement goal. Before drawing on this literature, we first identified six areas of the classroom learning environment that provide a comprehensive view of students' classroom experiences. These areas are represented by the acronym TARGET which was coined and described by Joyce Epstein (1988, 1989). TARGET refers to the Task, Authority, Recognition, Grouping, Evaluation, and Time structures of the classroom (see Table 1). The literature related to each area is reviewed below, and this review on the TARGET areas is an excerpt from a chapter I authored (Ames, 1992b).

Insert Table 1 about here

TARGET Areas of the Classroom

TASK Dimension

The TASK area of the classroom concerns the design of learning activities, tasks, and assignments (see Epstein, 1988). There are a number of motivational strategies concerning the design of tasks which are consistent with a mastery orientation. The purpose of these strategies is to increase children's involvement and interest in learning as well as the quality of their engagement (see Epstein, 1988). Some of these strategies include:

1. Design activities that make learning interesting and that involve variety and personal challenge. Children should understand the reasons for engaging in learning tasks and classwork (see Brophy, 1986).

2. Help students establish realistic goals. With short-term goals, students view their classwork as manageable, and they can focus on their progress and what they are learning (see Schunk, 1989).
3. Help students develop organizational and management skills and effective task strategies. Students, especially those with learning difficulties need to develop and apply strategies for planning, organizing, and monitoring their work (see Corno & Mandinach, 1983; Corno & Rohrkemper, 1985).

A number of researchers have argued effectively for diversity, variety, and novelty in the design and structure of classroom tasks (e.g., Brophy, 1986; Lepper & Hodell, 1989; Marshall & Weinstein, 1984, 1986; Rosenholtz & Simpson, 1984a). Brophy and Merrick (1987) have defined a rather comprehensive scheme for organizing both general and specific motivational principles as they apply to classroom learning and have tested them in an intervention in junior high school classrooms. In this intervention, they used variety, novelty, and active participation as descriptors of how tasks and learning should be structured. In the area of task design, their list or recommended motivational strategies included both general (e.g., "structure activities as learning experiences") and more specific (e.g., "induce task interest for appreciation") elements. Three components of intrinsic motivation, challenge, curiosity, and personal control, as outlined by Malone & Lepper (1987) also have important implications for the structure and design of tasks in the classroom. According to Malone & Lepper (1987; see also Lepper & Hodell, 1989), "motivating" tasks should offer personal challenge, include variety, and appeal to students' interests. Similarly, Corno & Rohrkemper (1985) describe "meaningfulness" and "variety" as task conditions that facilitate an interest in learning.

The design of tasks can influence students' perceptions of their own and others' ability. Rosenholtz & Simpson (1984a, 1984b) defined uniformity of tasks as one factor that contributes to what they labeled as a unidimensional classroom structure. In classrooms of this type, students tend to use the same materials and have the

same assignments. Within a unidimensional structure, students are likely to translate performance differences into ability differences. By contrast, in multidimensional classrooms, students tend to work on different kinds of tasks or have different assignments, and there is less opportunity or need for students to compare their performance with others. Hence, students develop a sense of their own ability that is not dependent on social comparison. In their work, diversity in tasks diminished the likelihood that students perceived a hierarchy of ability in the classroom. Variety, as well as choice of tasks can reduce social comparison among students and the use of comparative information in the process of self-evaluation (Marshall & Weinstein, 1984, 1986).

The reasons students are given for learning can increase the quality of their involvement and affect their selection of learning strategies. Benware & Deci (1984), for example, found that the quality of learning increased when students were told to learn material in order to teach it to another than when they were told to learn the material to take a test. Students who are focused on trying to understand what they are learning tend to report greater satisfaction with school learning in general (Nicholls, Patashnick, & Nolen, 1985). Reasons for learning that emphasize understanding, gaining and improving skills, and task introductions that elicit students' interest are likely to foster a view of "the experience of learning as inherently valuable" (Nicholls et al., 1985, p. 691).

When tasks are structured in such a way that students are involved in goal setting, they are more likely to experience a sense of self-efficacy (for review, see Schunk, 1989). Whether the goals are established by the student or the teacher, when they are specific and short-term, the result is enhanced effort on the part of the student (see also Schunk, 1985). Students' confidence in their ability to do the work is reinforced as they observe their progress toward the goal. At the elementary school level, a long-term goal might involve an assignment that is given on Monday and due on Friday. Even when time is set aside each day to work on the assignment, some children are likely to become overwhelmed with the whole task in front of them and still others may approach the assignment without

any plan or organization in mind. For these children, the assignment typically isn't completed at the end of the week, and the teacher blames the child because he had the entire week to complete it. Breaking down the week-long assignment into short-term goals is likely to enhance work completion and children's beliefs that they can do the tasks (see Schunk, 1989).

Finally, Corno and Mandinach (1983) contend that the quality of students' cognitive engagement is determined by their ability to utilize organizing, planning, and monitoring strategies. Children with learning difficulties are often unable to organize their work, plan for its completion, and monitor their progress toward completion. Task design, instructions, and modeling can facilitate the development and application of these skills (see Corno & Rohrkemper, 1985).

AUTHORITY Dimension

The AUTHORITY area involves students' opportunities to take leadership roles, develop a sense of personal control and independence in their learning. The goals of motivational strategies in this area are to foster active participation and a sense of ownership in the learning process.

1. Give students opportunities to participate actively in the learning process via leadership roles, choices, and decision-making (see Epstein, 1988; Ryan et al., 1985).
2. Help students develop the skills to take responsibility for their learning.

Evidence (Grolnick & Ryan, 1987a, 1987b; Ryan, Connell, & Deci, 1985; Ryan & Grolnick, 1986) suggests that children's feelings of self-competence tend to be higher in classrooms that are "autonomy-oriented." This autonomy-oriented climate is described as one where teachers involve students in the learning process by giving them choices (Grolnick & Ryan, 1987a). Giving more responsibility to low achieving students, in particular, may reduce or eliminate the potentially harmful effects of teachers' low or negative expectations of these students (Marshall & Weinstein, 1984). The strategies teachers use to encourage students to take on challenging tasks and

to participate affect children's attitudes toward their own ability, toward school, and toward the learning process (Ryan et al., 1985).

The positive relationship between an autonomy-oriented environment and student mastery motivation and perceived competence has been supported across numerous studies. Deci, Schwartz, Sheinman, & Ryan (1981), for example, found that elementary school teachers' orientations toward autonomy were related to children's perceived competence and mastery motivation. Moreover, positive changes in children's motivation over time have been related to teachers' orientations toward autonomy (Deci, Nezlek, & Sheinman, 1981). Children have been found to make significant gains in feelings of self-determination when in classrooms of autonomy-oriented teachers (Grolnick & Ryan, 1987b). In deCharms's (1976) large scale classroom study, he attempted to create "origin-like" environments by having teachers use instructional practices that would support student autonomy. These practices involved giving students choices and involving them as active participants in all phases of the learning process. The project findings were indeed complex but provided much support for the argument of involving students in meaningful decision-making.

Classroom structures that provide students with choices and opportunities for decision-making appear to increase the quality of student engagement in learning (Ryan et al., 1985; Grolnick & Ryan, 1987b). When students are given choices, however, they must perceive the choice as "real." In some instances, telling students that they can choose any book they wish for a book report may only result in some students choosing books that are much too difficult and others choosing books that are too easy. This is especially likely to occur when the students anticipate normative evaluation of their work. If children's choices are motivated by a "failure avoidance" (see Covington & Beery, 1976), feelings of "self-determination" (Ryan et al., 1985) or personal control are not likely to be enhanced. Choices must be perceived as "equal" choices such as giving students a choice among a range of equally difficult books or a choice of equally desirable activities or assignments. The student's choice then, is guided by their interest and not by efforts to protect feelings

of self-worth. These constraints are noted by Ryan et al. (1985) when they recommended "providing structure" for children's choices.

Grolnick & Ryan (1987a) further suggest that increased autonomy in learning can also enhance the quality of learning. In one study, (Grolnick & Ryan, 1987b), they found that when children were given a task focus (i.e., minimizing external controls and presumably creating a situation where children should feel a sense of autonomy), conceptual learning was enhanced. Moreover, retention of the material was greater than when students were told they were to be tested and evaluated at a later point in time. This point, of course, is closely related to the evaluation area; and it is well to note here that the TARGET areas naturally overlap but, in that way, they provide an integrated approach to studying classroom processes.

RECOGNITION Dimension

The RECOGNITION area concerns the formal and informal use of rewards, incentives, and praise in the classrooom. The types of rewards, reasons for rewards, and the distribution of rewards have important consequences for whether children develop an interest in learning, feelings of self-worth, and a sense of satisfaction with their learning. Recognition and rewards when focused on individual gains, improvement, and progress provide all students with opportunities for recognition (see Covington & Beery, 1976). The guidelines for strategies in this area are:

1. Recognize individual student effort, accomplishments, and improvement.
2. Give all students opportunities to receive rewards and recognition.
3. Give recognition and rewards privately so that their value is not derived at the expense of others (see Covington & Beery, 1976).

It is well recognized that rewards and incentives can have paradoxical effects on student motivation, interest, and participation (see, for example, Lepper & Hodell, 1989). Lepper & Hodell chronicle the negative short-term and long-term consequences that extrinsic rewards can have on children's intrinsic interest in learning. When

perceived as "bribes," extrinsic rewards can serve to undermine children's interest and participation over the long term (Lepper & Hodell, 1989). Rewards can become the reason for one's engagement and participation, and when they are perceived as such, the rewards are controlling and detract from the intrinsic value of the task (see Ryan et al., 1985). Ryan et al., however, also suggest that intrinsic interest may not be threatened when rewards are perceived as informative, that is, when they are tied to specific aspects of a child's performance.

The use of incentives in the classroom proves problematic because they are typically applied to all the children (i.e., those whose low participation may require some external incentive as well as those whose participation is moderate or high and voluntary) in the classroom (see Lepper & Hodell, 1989). Recent research by Boggiano and her colleagues (Boggiano et al., 1987) suggests that adults tend to prefer the use of extrinsic reinforcements over other strategies for motivating children. In their study, they presented a number of scenarios to adults that described children in high and low interest activities. When asked to select a strategy either for increasing or for maintaining the child's interest, the adults preferred extrinsic rewards over other less invasive strategies (e.g., reasoning, noninterference). Moreover, adults paid little attention to information about whether or not children were interested in the activity, participated in the activity, or were capable in the activity.

Programs involving extrinsic rewards (e.g., reading incentive programs) are pervasive in our schools. Even goals established so that everyone can earn a reward or rewards given to recognize individual goals can have negative effects on children's feelings of competence and interest in learning when the goals are viewed as externally-imposed and when recognition is made public (see Covington & Beery, 1976). Bulletin boards and charts, for example, that display children's accomplishments, work, or progress toward goals invite social comparisons. Even when the progress is toward an individual goal (e.g., a certain number of books to be read), the public forum guarantees that many children will feel a negative form of recognition. Similarly, emphasizing and rewarding perfection (e.g.,

posting of perfect papers, papers with A's) especially in public makes ability a highly salient dimension of the classroom learning environment. When recognition for accomplishments or progress is private, between the teacher and the child, feelings of personal pride and satisfaction do not derive from doing better than others. Recognizing student effort can also be an important way of enhancing students' feelings of efficacy when they begin new tasks (Schunk, 1989).

In an analysis of teacher praise, Brophy (1981) shows how verbal reinforcements can convey a range of different (and, sometimes unintended) information to a student. According to Brophy, praise is too often directed toward the very general and unimportant aspects of a child's work. When given, praise can also have negative effects on student's motivation when it is used in such a way that elicits social comparison. "Praise can provide encouragement and support when made contingent on effort, ...when it directs students' attention to genuine progress or accomplishment" (Brophy, 1981, p. 21).

GROUPING Dimension

The GROUPING area focuses on students' ability to work effectively with others on school tasks. The goal is to establish an environment where individual differences are accepted and all students develop a feeling of "I belong here." Differences in ability, then, do not translate into differences in motivation. The strategies in this area include:

1. Provide opportunities for cooperative group learning and peer interaction.
2. Use heterogeneous and varied grouping arrangements.

The classroom is a social environment, and student relationships and social organizational features of the environment impact student motivation (Corno & Rohrkemper, 1989; Johnson & Johnson, 1985). Consider, for example, a teacher who begins math class by presenting a challenge problem to the students. The teacher gives the students five minutes to think about it and then asks for volunteers to "try it on the board." The activity itself is rather low-

key, and the teacher is very encouraging even when students make mistakes. Nevertheless, few students volunteer to "try it" and almost none remember the problem at the end of the class period. This "individual" activity could elicit more student participation if the students were given 10 minutes to tackle the problem in small groups of three students. Instead of individual students being called upon to share their answer and strategy, small groups could volunteer to share their approach. A small group approach has the advantage of eliciting more student involvement, and "active" learning because it poses substantially less risk for individual students (see Johnson & Johnson, 1985).

Classrooms can be structured so that students work competively, cooperatively, or individually and each type of structure has different consequences for students' learning and motivation (Ames, 1984b). Classroom structures that emphasize competition or social comparison have been found to elicit thought processes that quite likely impede learning and subsequent motivation (Ames & Ames, 1984). When social comparison is made salient, children tend to focus on their ability and often engage in debilitating self-evaluations and cognitions (Ames, 1984a). By contrast, when students work toward individual goals or within a cooperative structure, children tend to focus more on their effort and positive affect derives from trying hard or working successfully with another (Ames & Ames, 1984).

Low achieving students, in particular, appear to benefit from cooperative structures (Johnson & Johnson, 1985; Slavin, 1983). Differential ability is not the focus of attention (Ames, 1981) and differential teacher treatment is less visible to students (see Marshall & Weinstein, 1984, 1986). As a consequence, individual differences in ability and performance do not translate into peer rejection. Self as well as interpersonal evaluations have been found to be less discrepant as well as more favorable when students experience some success on small group tasks (e.g., Ames, 1981). According to Johnson and Johnson's (1985) analysis, cooperative structures promote an interest in learning and a focusing on the value of joint effort.

Small group learning typically allows students to assume more control over their learning (and, in this way, it relates to the Autonomy area) which fosters task involvement (see Meece et al., 1988). Corno & Mandinach (1983), however, warn us that cooperative structures can also lead to "recipience" on the part of students. That is, students may become quite willing or even eager to let others take responsibility for the work. Slavin's (1983) emphasis on the importance of individual accountability within cooperative learning models reduces the likelihood that student engagement will be characterized by recipience.

There are many models of cooperative learning (e.g., Aronson, 1978; Johnson & Johnson, 1985; Slavin, 1983), and it is beyond the scope of this chapter to review these alternative methods. However, research evidence is robust in documenting the benefits of cooperative learning. In general, cooperative learning appears to facilitate a wide range of processes that contribute to and enhance active engagement in learning.

EVALUATION Dimension

The EVALUATION area involves the methods that are used to assess and monitor student learning (Epstein, 1988). Because evaluation is one of the most salient features of the classroom, students' motivation to learn can be easily undermined by how evaluation occurs (Covington & Beery, 1976). Within a mastery goal orientation, students need to feel that it's okay to make mistakes (or that mistakes are a part of learning and not a measure of failure), that they have opportunities to improve, and satisfied when they have applied reasonable effort or when they have achieved mastery, or personal improvement. Some strategies that have been identified within this area are:

1. Evaluate students for individual progress, improvement, and mastery.
2. Give students opportunities to improve their performance.
3. Vary the method of evaluation and make evaluation private.

It is not only a matter of whether evaluation occurs or doesn't occur, of particular concern is the type, form, and purpose of evaluation; and more importantly, students' perceptions and interpretations of the meaning or intent of the evaluation (Mac Iver, (1987). Evaluation practices can establish very different motivational climates, can orient children toward different goals, and, as a result, can elicit different systems of motivation.

Much literature (e.g., Butler, 1987, in press; Covington, 1984, Covington & Omelich, 1984; Crooks, 1988; Jagacinski & Nicholls, 1984, 1987) suggests that evaluation practices can have deleterious effects on student motivation when they are normatively-based, public, and linked to ability. Evaluation systems that emphasize social comparison tend to lower children's perceptions of their competence when they don't compare favorably and cause them to engage in many self-defeating cognitions and experience considerable negative affect (Ames & Ames, 1984). The negative effects of social comparison and competition have been repeatedly noted in sports settings (Roberts, 1992) and the parallels between sport and classroom settings has been elaborated elsewhere (Ames, 1992c).

Normative evaluation establishes a performance goal orientation which focuses children on evaluating their ability. Children's self-worth becomes linked to ability, and as a consequence, they often engage in failure-avoiding behaviors to protect their feelings of worth (Covington, 1984). Normative-based grades, the most common form of evaluation in school, have been found to reduce children's interest in learning even when the evaluation conveys positive feedback (Butler, 1987; Butler & Nisan, 1986). Covington & Beery (1976) describe evaluation as a pervasive phenomenon in most schools and classrooms, and children discover that only work and assignments that are to be graded are important. Finally, evaluation, when it occurs, is often public (e.g., honor rolls are announced, Math Wizzards are posted, perfect papers are displayed, and highest and lowest grades are announced when returning papers), inviting social comparison and, for many students, negative self-evaluations.

Children are more likely to adopt a mastery goal orientation when evaluation is based on personal improvement, progress toward individual goals, participation, and effort (Ames, 1984a). Children tend to focus on their effort, rather than ability, and utilize specific task strategies that will contribute to improvement and mastery. Covington & Omelich (1984) found that when students were given opportunities to improve their performance and grades on tests, the connection between ability and feelings of self-worth was severed (see also Covington, 1984). Offering students opportunities to improve their grade suggests to students that mistakes and errors are a part of the learning process and not indicative of failure to learn. According to Brophy (1987), evaluation and testing practices should help students assess their own progress and should not be viewed as a way of finding out who is less able.

Evaluation practices that are public, rather than private, and that emphasize social comparison, rather than individual progress, can promote what Marshall and Weinstein (1984) label as a "high differential treatment" classroom. Similarly, the unidimensional classroom described by Rosenholtz and Rosenholtz (1981) is one where grades are frequent, public, and emphasized. In these classrooms, there is much opportunity for students to question their ability and judge their ability as inadequate. Finally, research suggests that we should consider a range of different practices in evaluating students. When Butler & Nisan (1986) compared the effects of different forms of evaluation on student interest in learning, she found that task-specific comments had a more positive influence on interest and commitment than did praise or grades.

Using a variety of evaluation practices and incorporating methods that deemphasize the appearance of an ability hierarchy reduces students' opportunities for social comparison. Mac Iver (1988) studied the impact of grade dispersion in classrooms on students' perceptions of their own and other's ability and found that high dispersion of grades increased the variability in perceived ability among the students. His findings additionally suggest that the frequency of giving grades may be less important than the actual dispersion of grades in the classroom. This dispersion, then, can

easily contribute to a hierarchy of perceived ability which translates into motivational inequities (see also Nicholls, 1989).

TIME Dimension

The TIME area concerns the appropriateness of the workload, the pace of the instruction, and the time allotted for completing learning activities and assignments (see Epstein, 1988). The TIME area is closely related to the design and structure of tasks since the design of assignments and time allotted for completion must accomodate different entry skills, attention spans, and capabilities. Priorities in the work load and assignments need to be adapted for individual student's skill level, learning rate, and available time for out-of-class learning. The strategies in this area include the following:

1. Adjust task or time requirements for students who have difficulty completing their work.
2. Allow students opportunities to plan their schedules and progress at an optimal rate.

Good (1983) suggested that students' perceptions of tasks and instructions affect how time is used in the classroom. He pointed out that we need to attend to how classroom learning activities can be designed to optimize student rate of learning and achievement. Unfortunately, even when available time is optimized, quality of task engagement may not be affected. Students' opportunity to learn, the quality of that time, and students' ability to apply quality effort are all considerations in this area. Diversity among students in their skills, learning rates, and motivation is evident even in the early school years; as a consequence, schedules, assignment priorities, and time allocations must be flexible to deal with this diversity (Epstein, 1988).

The Time structure is closely related to other TARGET areas such as Task (e.g., how much children are asked to accomplish within specific time periods), Authority (e.g., whether children are allowed to schedule the rate, order, or time of completion of their assignments and activities), Grouping (e.g., whether quality of instructional time is equitable across groups), and Evaluation (e.g.,

time pressure on tests, whether the amount of work or criteria for mastery is the same for all students). In many classrooms, some children are overwhelmed when confronted with the assignments for the day and as a result, quality of work becomes secondary to quantity of output. In addition, some children see themselves as having few options when they are given the requirements and schedule, and they feel a lack of personal control.

Time limits and pressures during testing even on classroom tests have been found to have debilitating effects on children who become anxious when taking tests (Hill, 1984). By relaxing time limits on tests, the test-taking strategies and actual test performance of middle and high anxious children has been found to improve (Hill, 1984). Hill argues for "optimizing" testing procedures in classrooms to reduce the negative motivational effects of failure. These optimizing conditions include relaxed time limits, providing children with information about the difficulty of the test as well as adjusting the length and frequency of tests. At other times, however, imposing time limits on assignments may provide the necessary structure for completing work. For example, if students are given a certain amount of time to spend on an assignment (without negative consequences if the assignment is not completed), told how much time an assignment should require, or asked to give quality effort to a task for a certain amount of time, a willingness to apply effort may be enhanced.

Background of TARGET Study

The TARGET areas, therefore, provided a basis for organizing instructional strategies relevant to a mastery orientation and for providing a framework for delivering the intervention to teachers. Table 2 provides a summary of instructional strategies within each TARGET area that have been linked to adaptive motivation patterns. These strategies which were determined to be consistent with the principles underlying a mastery goal orientation formed the core components of the intervention. The purpose of the intervention was not to test the impact of the specific strategies as evidence for their linkages to motivational variables has been reported in the

literature. Instead, the intent was to bring together a set of strategies that provide a comprehensive approach to changing the nature of children's classroom experiences in such a way as to promote a mastery orientation.

Insert Table 2 about here

The design of the intervention was guided by several conceptual as well as pragmatic considerations. These are outlined briefly below:

1. The intervention was designed to be comprehensive, that is, to impact all the dimensions or structures within the classroom learning environment. Epstein (1988a, 1989) describes the TARGET structures as overlapping because they are not mutually exclusive. The TARGET areas are viewed as relating to each other and to a common set of dependent variables.

2. The content of the intervention extended beyond the principles of a mastery orientation and strategies that relate to each TARGET area to include a range of ideas and techniques that translated the strategies into actual classroom practices. As Brophy (1987) has noted, awareness is not a sufficient condition to cause a change in teaching behaviors. Similarly, understanding the rationale behind the model and the strategies involved is quite different from knowing how to implement them. Drawing on research experience of Brophy and his colleagues (e.g. Brophy, 1987; Brophy & Merrick, 1987), we provided teachers with ways to operationalize the strategies into their actual classroom routines or provided examples of ways to change their routines and practices.

3. An intervention designed to change the motivational climate of the classroom must be comprehensive (i.e., include all the structures of the classroom environment), but it also must "wrap around" the curriculum. That is, it must be integrated within all areas of the curriculum, and not just during reading or math instruction, for example. Moreover, motivation-based strategies must be viewed as an intregal part of all instructional processes and not reserved for "free-time" or "when all our work is done." Similarly, motivation

strategies must not be narrowly viewed as the use of extrinsic inducements to solicit student compliance or to reward desired behaviors.

4. There are indeed many ways of translating the strategies outlined in Table 2 into actual practice, and the methods teachers utilize will quite naturally depend on the context, the characteristics of the students, and the subject matter. As a consequence, teachers need many options, choices, and alternatives in their implementation. In providing these options, there must be some flexibility in the intervention itself. In this project, the teacher was viewed as a collaborator in the research process, and the intervention design, itself, provided opportunities for teachers to reflect on their practice and to contribute ideas and practices for implementing the strategies.

With these concerns in mind, the plan for the intervention project called for identifying specific techniques and practices for implementing the strategies within each TARGET area, defining guidelines for implementation, developing a program of training teachers, monitoring teachers' implementation, and assessing the impact of the intervention on student motivation.

Method

Teacher Sample. Because the intervention was to be teacher-implemented, the integrity and impact of the intervention could easily be compromised by the willingness and ability of participating teachers to apply the intervention strategies. Since the project was designed to test the impact of the intervention, certain guidelines were used to select teachers for participation. To provide some degree of uniformity among teacher participants, an initial sample of teachers was obtained by asking the principals of 14 elementary schools to nominate teachers for participation in the project. The principals were given three general criteria for nominating individual teachers including, (1) works well with students, (2) is willing to try out new ideas, and (3) is an above average classroom teacher. From the initial group of nominees 69 teachers across grades 2-6 volunteered to participate without knowing in advance whether

they would be assigned to the treatment or control group.[1] Teachers were then randomly assigned to treatment (n=39) and control (n=33) groups, controlling for school and grade level representation. Teachers were overrepresented in the treatment group to allow for potential drop-outs. Teachers assigned to the treatment group received a small honorarium for their participation. By the end of the spring semester, six teachers had dropped their participation because they moved, had an extended illness, or failed to implement the intervention (i.e., did not attend meetings or turn in record-keeping forms). The final sample, therefore, included 36 teachers in the treatment group and 30 teachers in the control group with the following breakdown by grade level, 8 treatment and 8 control classes in grade 2, 14 treatment and 10 control classes in grade 3, 9 treatment and 5 control classes in grade 4, 4 treatment and 6 control classes in grade 5, and 1 treatment and 1 control class in grade 6.

Student Sample. The effectiveness of the intervention was to be determined by changes in the motivation of students who have learning problems. Using this classification, our primary interest concerned students who had been classified as learning disabled. However, because the number of LD students is quite variable across classrooms and to provide an adequate evaluation of the intervention, we additionally identified a group of students within each classroom who the teacher viewed as "at-risk." Since the classroom teacher often recommends students for LD assessment during the year, we reasoned that students recommended for evaluation may come from this "at-risk" group. Thus, two classifications of students were studied. One group included all students who had been classified as learning disabled by the school and district. Although there was some discrepancy in the criteria used by the different districts, all students formally classified as LD were included in the sample. We used the school classification since this formal classification meant that these students were "treated" as

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[1] First grade teachers were originally in this sample but have been excluded from data analyses because of reliability problems in testing first grade children.

LD within the school and by the teacher. These students were mainstreamed but received special education services within the school. The number of LD students across classrooms varied greatly and ranged from zero to nine students. Since teachers, and not students, were selected for the project and randomly assigned, there was no way to control for the number of LD students across classes or between the treatment and control group classrooms. The second group of students included those who were nominated by the classroom teacher as "at-risk." During the fall semester, teachers were asked to identify 3-5 students in their room who exhibited two or more of the following characteristics, poor classroom performance, lacking appropriate strategies for doing well in school, poor motivation, lacking self-confidence, and negative self-view. These students often received Chapter 1 services at the school but were not classified as learning disabled. It should be noted, however, that a few teachers did not nominate any students as fitting the criteria of "at-risk."

Procedures

Teachers served as collaborators in defining the content of the intervention. Aside from the mastery-based principles and the TARGET strategies, teachers contributed ideas and practices that could put the strategies into operation. During the fall semester, the research team met monthly with small groups of those teachers who were participating in the intervention. At each of these meetings, two of the TARGET areas and the relevant strategies were discussed, and teachers presented ideas and shared materials on how to implement the strategy in the classroom. The ideas and materials contributed by teachers and identified from other sources were compiled as a set of resource materials for the teachers. Each teacher in the treatment group was then given a collection of materials which were organized into the six TARGET areas. For each area, the motivation strategies were described and many examples and ideas for implementation were included.

Teachers formally began the implementation at the beginning of the spring semester although many began trying out the ideas and

strategies discussed in the meetings in the fall semester. They were instructed to select at least one strategy from a TARGET area each week. They were also instructed to use at least two different strategies from each TARGET area over the course of the semester. These instructions were offered as minimal guidelines and teachers were encouraged to use as many ideas and strategies as they could and as often as they could. Teachers kept weekly records of the strategies they used and they provided brief evaluative comments on each strategy. The record-keeping forms were collected at the end of each month. During the implementation period, two meetings were held with the teachers to discuss problems and share additional ideas related to the implementation of the strategies. No contact was made with teachers in the control group during this time.

Measures

In each classroom, the children identified as LD or at-risk were assessed in the fall and again at the end of the spring semester. Children were tested individually outside the regular classroom during school hours. Except as noted, the response format involved a three-point scale, YES (3), SOMETIMES (2), NO (1). The same questions and format were used for all grade levels.

Mastery Climate Questionnaire. An instrument developed by Ames & Archer (1988) and used with high school students was adapted for use with elementary school children. Example items from the 16-item scale included: "In my class, we are given a chance to correct out mistakes. My teacher makes sure I understand how to do my work. My teacher lets me know if I am improving. In my class, we get to work on lots of different projects. Our teacher lets us try new ways of doing things. This measure of classroom climate was used for only the spring assessment.

Learning Strategies. Eleven items were adapted from the Weinstein, Zimmerman, & Palmer (1988) Learning and Study Strategies Inventory. Examples of items included: "I think about how to do my work before I start it. When I make mistakes, I try to figure out why. When my work seems hard, I just try even harder." These items represented what might be called generic learning

strategies in that they apply to all subject matter areas. In addition, they represented those strategies that involve planning, organizing, and the monitoring of one's effort and that begin to be developed during the elementary school years. Coefficient alphas for this administration were .80 for LD children and .78 for the at-risk children.

Intrinsic Motivation. Eight items formed this scale; some, of which, were adapted from Gottfried (1985). Examples included: "I like to work on hard problems. I like doing my classwork. I like learning new things. I like to try new things even if they are hard." Coefficient alphas were .79 for LD and at-risk children.

Attitudes. Three separate questions were used to measure attitude toward reading, math, and school.

Self-Concept of Ability. Using a measure described by Nicholls (1979), students were shown a column of 25 circles and were asked to pretend that the circles represented all the children in their class. They were told that the circle at the top was the one who did the best in reading and the one at the bottom did the worst in reading. Students were asked to identify which circle showed how well they did in reading. Each student received a score ranging from 1 (lowest) to 25 (highest) according to which circle they selected.

Perceived competence. Nine items assessed children's sense of their competence in the cognitive and social areas combined. For this scale, items were selected and adapted from Harter (1982) and Asher and Wheeler (1985). Examples included: "I am pretty good at my schoolwork. I can do the work in my class. I am good at working with the other kids in my class. It's easy for me to make friends at school." The response format for this scale involved three circles of increasing size representing how much the child agreed with the statement. Coefficient alphas were .75 for the LD and .80 for the at-risk children.

Teacher survey. At the conclusion of the spring semester, an open-ended survey evaluation of the project was solicited from teachers participating in the intervention.

Results

The analyses focused on two questions: (1) What changes can be found in student motivation from fall to spring within the treatment and control groups? and (2) How do students in the treatment and control classrooms compare at the time of the spring assessment? The effectiveness of the intervention has been evaluated separately for the LD and at-risk groups of students in each classroom. For the analyses, the data for each group have been aggregated to the class level.[2]

For the at-risk students, then, the aggregated class mean was generally based on an n of 3-5 students within each class. For the LD students, however, the variability of n across classes has significant implications for the robustness of the aggregated mean. Although the class mean was based on a range of 1-9 LD students across classes, the class mean was used as the unit of analysis. To simplify the analyses and to allow for a more robust test of grade level effects, the five grade levels were collapsed into lower elementary

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[2] Considerable mobility among the student population from fall to spring, especially within the at-risk group, resulted in significant attrition of students over the course of the year. When at-risk students left during the fall semester, some teachers nominated other students within this at-risk category. Some of these replacement students were new arrivals to the school during the fall semester. In addition, during the year, some students became classified as LD through teacher nomination and school-level procedures for diagnosis and classification. Because these students were not classified as LD at the beginning of the year, they were not tested in the fall. As a consequence, there were significantly more students for whom we had spring assessment data than for whom we had both fall and spring assessments. For the analyses reported here, we decided to take a conservative approach and include only those students for whom we had both fall and spring assessment data. As a result, several classes are not represented in the analyses because of attrition, new arrivals, or reclassification of students. It should be noted, however, that when we conducted analyses on the spring assessment data of the expanded student sample, these analyses revealed findings that were consistent with the findings reported here on the reduced sample.

grades (grades 2 & 3 combined) and upper elementary grades (grades 4-6 combined). I turn how to specific questions of the analyses.

How did students' self-evaluations and motivation change over the course of the year within the treatment and control groups?

The first set of analyses concerned changes in student motivation from fall to spring. Based on previous research (e.g., Brophy, 1987; Good & Brophy, 1987), students may be expected to show a significant decline in self-perceptions and motivation over the course of the school year. To examine change over the course of the year, Time (repeated factor) x Grade ANOVAs were conducted on the treatment and control groups separately within the LD and at-risk samples. Tables 3 (LD students) and 4 (at-risk students) show the results of these analyses. The number of teachers/classes in these analyses varied from the original sample size because of several factors (see footnote 1 above). In some classes, particularly in the lower grades, no students were classified as LD at the beginning of the fall semester, and although some became so classified during the year, they were not tested in the fall. Within both the LD and at-risk groups there was considerable mobility although the number of students leaving the school was greater within the at-risk group. In addition, newly-arriving students were sometimes classified as at-risk during the year. Finally some teachers did not nominate students for the at-risk category. Thus, the number of students, and therefore classes, that were available for both the fall and spring testing was substantially reduced.

We first looked for evidence of a decline in motivation with the control groups of the LD and at-risk samples. First looking at LD students, evidence of such a trend within the control group was not present (see Table 3). But, quite unexpectedly, such a decline occurred within the treatment group. For these LD students, significant declines occurred on measures of learning strategies, intrinsic motivation, attitudes toward math and school, and self-concept of ability. Although the ratio of classes at the lower and upper grade levels were not the same within the treatment and

control groups, it is important to note that there were no significant interactions involving the grade level of these students.

The picture is quite different for the at-risk students. For these students, there were significant negative changes in students' use of learning strategies, intrinsic motivation, attitudes toward reading and math, and perceived competence in the control classes. In contrast to these control classrooms, there were no significant negative trends on any measure in the treatment classrooms. There was even a significant increase on the measure of self-concept of ability. There were no significant interaction effects involving grade level of students on any variable. Although there was a larger representation of the lower grade classes in the treatment group, the pattern of scores from fall to spring was not different as a function of grade level.

Insert Tables 3 & 4 about here

What is most apparent in these data is the reverse image for the LD and at-risk students. Before interpreting this discrepancy, it was important to determine if there were treatment vs. control group differences at the time of the fall testing. To do so, Treatment (treatment vs. control) x Grade ANOVAs were conducted on each measure separately for the LD and at-risk groups. As would be expected, there were significant grade level differences within both the LD and at-risk groups. For the LD students, there were significant Grade effects on the measures of learning strategies, intrinsic motivation, attitude toward math, self concept of ability, and perceived competence, favoring the lower grade levels in each case. For the at-risk students, there were significant Grade effects for learning strategies, intrinsic motivation, and attitude toward school, favoring the lower grades. Within the LD group, there were also significant Treatment effects for learning strategies ($p<.01$), intrinsic motivation ($p<.01$), and attitudes toward math ($p<.05$) and school ($p<.05$). On each of these measures, the means for the treatment group were significantly higher than the means for the control group. For at-risk students, there were no significant Treatment effects on

any measure. Within both groups, there was only one significant Treatment x Grade interaction on perceived competence for the at-risk group. Tukey (HSD) post hoc comparisions showed that significant differences between the treatment and control groups occurred only at the upper grade levels but this difference favored those students in the control classrooms.

Thus, it appeared that although the treatment and control classrooms were not different at the time of the fall testing within the at-risk group, they were quite different on most of our measures for the LD student group. The decline in LD students' self-evaluation and motivation that occurred within the treatment, but not control, classrooms may reflect a regression to the mean effect. In any case, the impact of the intervention on the LD group of students is unclear.

For the at-risk students, the decrease in motivation variables that was found in the control classrooms, and that has been reported by others, was not apparent in the treatment classrooms where the teachers were implementing the intervention. Moreover, it should be noted that there were no significant differences between the treatment and control groups at the time of the fall assessment. The findings for the at-risk group suggest that the intervention may have had the effect of inhibiting the tendency toward a decline in motivation that would be expected especially for these students.

How did students' self-evaluations and motivation in the treatment and control groups compare at the time of the fall and spring assessments?

The second set of analyses compared the treatment and control classrooms on the measures administered at the end of the spring semester. Grade Level X Treatment ANOVAs were conducted on each variable for the LD and at-risk groups separately. Again, the mean for the LD and at-risk groups at the class level was used as the unit of analysis. The results of these analyses for the LD and at-risk groups are presented in Table 5, and the means and standard deviations for the treatment and control groups are presented in Table 6.

Insert Table 5 & 6 about here

Of primary interest was whether the students in the treatment classrooms perceived their experiences as more mastery-oriented than students in the control classrooms. On the mastery climate questionnaire, there were significant differences between the treatment and control classrooms for the at-risk children, but not the LD children. At-risk children in the treatment group rated their classroom as significantly more mastery-oriented than comparable children in the control group. The findings suggest that the intervention had the effect of increasing the salience of a mastery orientation for the at-risk, but not LD, students in the treatment classrooms.

Also revealed by Table 5 are significant grade level differences on attitude toward school and self-concept of ability for LD students and attitude toward school for at-risk students. In each instance, the means were higher in the lower than in the upper grades. Especially strong was less positive orientation toward school among the older students within both the LD and at-risk groups. These grade level differences were also present at the time of the fall testing for the at-risk students. The generally less favorable self-evaluations and motivation of students in the upper elementary grades may reflect both developmental and environmental factors. Changes in children's ability to understand the implications of evaluative feedback for judging one's ability and the increased demands of the upper elementary curriculum and the more differentiated grading practices are certainly suspect in explaining these differences (see Stipek, 1984; Stipek & Daniels, 1988).

The impact of the intervention on at-risk students was reflected in the differences between the treatment and control groups on measures of learning strategies, intrinsic motivation, attitude toward reading, and attitude toward school. At-risk children in the treatment classrooms scored significantly higher on these post assessments than children in the control classrooms (see Table 6). These children in the treatment classrooms expressed more

willingness to use effective strategies, showed a stronger preference for challenging work, and more positive attitudes toward school.

The apparent discrepancy in findings between the LD and at-risk groups of students is indeed perplexing. There are several plausible explanations for the apparent discrepancy between the LD and the at-risk groups. First, unlike the at-risk students, the LD students spent between 1-2 hours each day outside the regular classroom receiving special services. They typically received instruction in reading during these times or help in completing work in other primary subject matter areas. Although the intervention was intended to involve all the subject matter areas, reading is a dominant subject area in the elemenatary school, and it is quite likely that many intervention strategies were incorporated into these lessons. In fact, the findings showed that the attitudes toward reading, but not math, for the at-risk students were significantly impacted by the intervention. Thus, the LD students may have been absent from class during critical time periods.

Second, observations suggested to us that the LD students were often not well integrated into ongoing classroom activities. For many tasks, these students were not expected to complete the work or they would wait until they went to the resource room to receive assistance. The at-risk students, although they were typically poor performers, were expected to complete the classroom work and participate in all classroom activities. Differential expectations for the at-risk and LD students were suspect. To obtain a more complete perspective of teachers' perceptions of the LD students, we conducted extensive interviews with teachers with regard to six LD students. A qualitative report (prepared by Markward) of these interviews is presented in Appendix A. What is especially striking is the unique experiences and conditions of each of these children from the teacher's perspective. Our quantitative data show more variability among the response scores of the LD than the at-risk students (see Table 6, for example), and the qualitative information also reveals much variability among these LD students.

Finally, the computed means for LD students in some classes was based on a very small n of 1 or 2 students. There were also

some extreme (outlier) scores in the data, and because the number of LD students varied so much across classes, the extreme scores greatly affected the class means and the variance across classes. The differences in criteria across districts and the heterogeniety in the LD population, itself, may have contributed to the considerable variance found within this sample.

How did teachers participating in the intervention evaluate the project?

A summary of the open-ended responses to the project is presented in Appendix B. The teacher evaluations were quite positive especially related to an increased awareness of their own teaching practices. A significant component of this project was the teachers' collaboration in identifying specific practices that served to operationalize the strategies outlined within each TARGET area. It appears that teachers not only felt ownership in the project, they benefitted from the opportunities to interact with each other and to reflect on their own practice. It is often the case that teachers have little time or opportunity to reflect on their practice and to consider alternative instructional practices. It is quite clear from the responses that teachers benefitted from the group meetings during which they could exchange ideas as well as strategies related to the TARGET areas. It is also clear that teachers were beginning to integrate some of the ideas into their daily or weekly routines.

The teachers participating this year were nominated because of their apparent willingness to try out new ideas. Teachers' initial interest and motivation to participate was a definite advantage and undoubtedly contributed to the integrity of the intervention. The content of the intervention appears to be "teacher-friendly" and positively evaluated.

Conclusions

The results of the first year of the project proved encouraging. Although we had anticipated a considerable drop-out by teachers who were in the treatment or intervention group, this did not happen, suggesting that the intervention, itself, was seen as beneficial by the teachers. We collected open-ended evaluations of the teachers who participated in this first year of the project; they were quite favorable. The findings for the LD students were disappointing but this was counterbalanced by the positive intervention findings for the at-risk students. It is unclear as to whether the intervention itself is more beneficial for at-risk than LD students or whether teachers actually have more contact time with the at-risk students. The range of LD students across classes also proved problemmatic in establishing a robust mean at the class level. For the at-risk students, mobility was significant and unpredictable, and in a field study, it is impossible to control for this attrition. Nevertheless, the findings suggest the importance of including different "kinds" of students in our assessment and evaluation of the intervention. The findings also suggest that the TARGET framework may provide a way of enhancing the mastery climate of the classroom and, as well, the motivation to learn of a group of students with learning difficulties.

Table 1

Description of TARGET Areas[1]

TASK	Class activities, assignments and homework; design of tasks.
AUTHORITY	Student participation in the instructional process.
RECOGNITION	Reasons for recognition; distribution of rewards; opportunities for rewards.
GROUPING	Manner and frequency of students working together.
EVALUATION	Standards for performance; monitoring of performance; evaluative feedback.
TIME	Schedule flexibility; pace of learning; management of classwork.

[1]These descriptions were adapted from Epstein (1988, 1989)

Table 2

Instructional Strategies within TARGET Areas

TARGET AREA	STRATEGIES
TASK	Design tasks for variety, diversity, and individual challenge Help students set short-term goals Help students identify & use appropriate learning strategies
AUTHORITY	Give students opportunities to make choices Involve students in decision-making and leadership roles Assist students in self-management and self-monitoring
RECOGNITION	Focus on individual self-worth Assure equal opportunities for rewards Make recognition meaningful & noncomparative
GROUPING	Use flexible & heterogeneous grouping Provide for multiple grouping arrangements Use group learning methods
EVALUATION	Use criteria of progress, improvement, & mastery Give opportunities to improve Involve students in self-evaluation Make evaluation private and meaningful
TIME	Adjust task requirements, establish priorities Help students develop organizational skills for task completion

Table 3

Change from Fall to Spring on Motivation Variables for Students with Learning Disabilities

(Year 1)

Treatment Group	Fall	Spring	(Change)	F Value
Learning Stragegies	29.48	27.44	(-2.04)	10.78**
Intrinsic Motivation	21.29	19.78	(-1.51)	7.12*
Attitude/Reading	2.58	2.67	(+.09)	n.s.
Attitude/Math	2.61	2.30	(-.31)	5.39*
Attitude/School	2.60	2.24	(-.36)	9.00**
Self-Concept of Ability	19.69	17.23	(-2.46)	6.17*
Perceived Competence	21.60	20.88	(+.72)	n.s.
Control Group				
Learning Strategies	27.37	27.95	(+.58)	n.s.
Intrinsic Motivation	19.42	19.58	(+.16)	n.s.
Attitude/Reading	2.53	2.59	(+.06)	n.s.
Attitude/Math	2.32	2.32	(.00)	n.s.
Attitude/School	2.33	2.25	(-.08)	n.s.
Self-Concept of Ability	17.60	16.55	(-1.05)	n.s.
Perceived Competence	20.10	21.62	(+.52)	n.s.

*p<.05
**p<.01

n = 31 classrooms in treatment group (19 in lower grades, 12 in upper grades)
n = 20 classrooms in control group (11 in lower grades, 9 in upper grades)

Table 4

Change from Fall to Spring on Motivation Variables for At-Risk Students

(Year 1)

Treatment Group	Fall	Spring	(Change)	F Value
Learning Stragegies	28.46	28.11	(-.35)	n.s.
Intrinsic Motivation	20.61	20.30	(-.31)	n.s.
Attitude/Reading	2.63	2.55	(-.08)	n.s.
Attitude/Math	2.47	2.41	(-.06)	n.s.
Attitude/School	2.43	2.42	(-.01)	n.s.
Self-Concept of Ability	16.81	19.33	(+2.52)	8.33**
Perceived Competence	21.57	20.81	(-.76)	n.s.
Control Group				
Learning Strategies	29.08	26.00	(-3.08)	13.55**
Intrinsic Motivation	21.26	18.11	(-3.15)	17.49***
Attitude/Reading	2.68	2.12	(-.56)	8.35**
Attitude/Math	2.65	2.10	(-.55)	11.43**
Attitude/School	2.40	2.09	(-.31)	n.s.
Self-Concept of Ability	18.20	16.63	(-1.57)	n.s.
Perceived Competence	21.97	20.36	(-1.61)	4.68*

*p<.05
**p<.01
***p<.001

n = 32 classrooms in treatment group (20 in lower grades, 12 in upper grades)
n = 20 classrooms in control group (11 in lower grades, 9 in upper grades)

Table 5

E Values for Grade x Treatment Effects

(Spring Only)

	LD Students			At-Risk Students		
Variable	Grade	Treatment	Grade x Treatment	Grade	Treatment	Grade x Treatment
Mastery Climate	.91	.19	.51	.32	8.18**	.41
Learning Strategies	1.52	.78	.24	2.50	8.77**	.10
Intrinsic Motivation	1.41	.01	.08	3.90	12.93***	.10
Attitude/Reading	2.46	.19	.08	.07	7.87**	.17
Attitude/Math	.23	.15	2.66	.38	3.87	.57
Attitude/School	10.91**	.05	.07	9.53**	4.96*	1.48
Self-Concept of Ability	5.43*	.03	.39	2.93	2.91	.01
Perceived Competence	.39	.84	.13	.40	.34	.25

*p<.05
**p<.01
***p<.001

df = 1, 47 for all effects

Table 6

Means and Standard Deviations for Treatment and Control Group

(Spring Assessment)

	LD Students		At-Risk Students	
Variable	Treatment	Control	Treatment	Control
Mastery Climate	39.95 (4.39)	40.23 (2.85)	42.07 (2.91)	39.35 (3.33)
Learning Strategies	27.44 (3.38)	27.95 (2.68)	28.11 (2.34)	26.00 (2.54)
Intrinsic Motivation	19.78 (3.03)	19.58 (3.89)	20.30 (1.90)	18.11 (2.37)
Attitude/Reading	2.67 (.48)	2.59 (.55)	2.55 (.41)	2.12 (.61)
Attitude/Math	2.30 (.68)	2.32 (.70)	2.41 (.52)	2.10 (.61)
Attitude/School	2.24 (.69)	2.25 (.68)	2.42 (.49)	2.09 (.63)
Self-Concept of Ability	17.23 (5.06)	16.55 (6.86)	19.33 (4.58)	16.63 (5.81)
Perceived Competence	20.88 (3.04)	21.62 (3.09)	20.81 (2.86)	20.36 (2.78)

Note: Number in parentheses are standard deviations.

YEAR 2: CLASSROOM/TARGET INTERVENTION STUDY

Year 2: Classroom/TARGET Intervention Study

The second year of the project continued to focus on examining the effects of the TARGET intervention in relation to a specific set of questions. First, in addition to the LD and at-risk groups of children, a randomly-selected group of children from each classroom was added as a comparison group.[3] Although the intervention was initially conceptualized in relation to children with learning problems, it was of considerable interest to examine whether the intervention has differential benefits for different types of children. With the inclusion of the randomly-selected children, it was our intention to bring a perspective on the differential effectiveness of the intervention during the first year.

The findings from the first year were encouraging for the at-risk group, but this was not the case for the LD children. It was therefore of interest to examine the intervention in relation to another group of children within the classroom--a group that in some ways may be viewed as non-at-risk although it must be recognized that the at-risk group within any classroom may be broader than the nominated group. Thus, within most classrooms, the student sample involved three distinct groups of children, including all children classified as LD, those nominated as at-risk, and a group of five children randomly-selected from those not included in the first two groups.

Secondly, measures for each TARGET area (excluding Time) were developed, and the contribution of each of the specific TARGET areas to the motivation outcomes was examined. Finally, the project involved a longitudinal tracking of children who had now been in intervention classrooms for two consecutive years. These children were compared with others who had either participated for only one year or who had not participated either year.

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[3] Financial support for adding this randomly-selected group and for conducting this additional testing was provided by the College of Education, University of Illinois.

Method

Sample and Procedures. In this second year of the project, the intervention group of teachers was expanded.[4] This exansion resulted in a total of 44 teachers in the intervention group. In all, 16 new teachers were added to the intervention group. However, because 10 teachers from the original (n=39) group dropped their participation because of change in teaching assignment or personal reasons, there was a 33% change in the composition of the intervention group. In the control group, there were 36 teachers, many, of whom, were new recruits to serve in this group. The student sample again included all children formally classified as LD and those nominated by the teacher as at-risk, but it also included five children randomly-selected from each classroom such that there was no overlap between the groups. Teachers participating in the intervention group were given a small honorarium for their participation.

The procedures for conducting and monitoring the intervention remained the same as year 1 except that teachers met with the research team on a monthly basis to discuss the intervention and problems associated with implementation. The intervention was implemented over the course of the entire school year, and children were tested at the end of the spring semester. At the end of the school year, teachers responded to specific survey questions asking for self-evaluation of their use of the intervention program and strategies in the classroom. Based on this self-report and a review (by three independent judges) of their record-keeping forms, 11 teachers (4 teachers in grades 2 & 3 and 7 teachers in grades 4 & 5) in the intervention group were eliminated from the analyses because they did not implement the intervention program with sufficient frequency. Thus, the final n included 34 teachers in the intervention group.

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[4] As part of the random assignment of teachers during the first year, teachers assigned to the control group were given the option of participating in the intervention group during the second year. Part of the expanded sample of teachers therefore came from the control group.

Student measures. All the self-evaluation and motivation variables measured in year 1, including learning strategies, intrinsic motivation, attitude toward school, self-concept of ability, perceived competence, and mastery goal orientation of the classroom were assessed in year 2. In addition, students perceptions of the task, authority, recognition, grouping, and evaluation dimensions of the classroom were developed.[5]

The Task area included 9 items (e.g., " In my class, we get to work on lots of different projects. We do many different things in my class. We learn a lot of new things in my class. My teacher helps me plan how to do my work. In my class, I like learning new things.") with a coeficient alpha of .78 for the entire group (range of .77-.79 for the three subgroups of LD, at-risk, and randomly-selected students).

The Authority area was measured with 7 items (e.g., " In my class, I get some time to choose what I want to do. My teacher wants us to try new things. Our teacher lets us try new ways of doing things.") with a coefficient alpha of .56 (range of .53-.56).

The Recognition scale included 7 items (e.g., "My teacher makes me feel important. My teacher is interested in what I have to say. I feel I am an important member of my class. My teacher makes me feel good.") with a coefficient alpha of .82 (range of .81-.83).

The scale on Grouping included 9 items (e.g., "My teacher shows us how to work with each other. I get to work with a lot of kids in my class. In my class, we do some assignments in groups. My teacher wants us to help each other on our schoolwork.") with a coefficient alpha of .69 (range of .66-.72).

The Evaluation scale had 9 items (e.g., "In my class, it's ok to make mistakes. In my class, we are given a chance to correct our mistakes. My teacher lets me know if I am improving. When I make a mistake, my teacher helps me make it better.") with a coefficient alpha of .74 (range of .73-.76).

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[5] We were unable to develop an assessment of Time that achieved an acceptable level of internal consistency.

Teacher measures. Teachers were asked to respond to a set of questions for each LD and at-risk child in their classroom. These questions included ratings of the child's ability in reading and math relative to other children in the room, ratings of the child's progress that year in developing a motivation to learn, self-confidence, and academic ability, and a rating of their expectations for the child's success the following year. The response format for each question was a five-point scale.

Results

The analyses focused on three questions including: (1) What are the effects of the TARGET intervention on LD, at-risk, and randomly-selected children? (2) What is the contribution of each TARGET area to the motivational outcomes of these three groups of children? (3) For those LD and at-risk children who have been in the project for two consecutive years, what is the impact of the intervention over a two-year period? For most analyses, the data were aggregated to the classroom level separately for each group. Because of attrition, we set an arbitrary requirement of $n \geq 3$ students within each classroom group of at-risk or randomly-selected to compute a class mean. This decision rule was not applied to the LD group since there was considerable natural variation in number of LD students across classes at the beginning of the fall semester. As a result, the number of classes represented in the analyses is less than the original sample. Also, the n's vary somewhat across analyses as a function of missing data.

What were the Effects of the Intervention for LD, At-Risk, and Randomly-Selected Children?

The effects of the intervention were analyzed using a Grade x Treatment ANOVAs for each group of children separately. A summary of the results of these analyses is presented in Table 7. The first group of variables concerned the perceived climate of the classroom, including five TARGET dimensions. There were several significant grade level effects and the direction of the findings were quite consistent, showing that the average scores were higher in grades 2 & 3 than in grades 4-6. For example, at-risk and randomly-

selected children in the lower grades perceived their classroom as providing more variety and diversity in tasks (Task dimension) than did children in the upper grades.

Looking first at how students perceived the classroom climate, the ANOVA results showed no significant treatment effects for the LD and randomly-selected children. For the at-risk children, however, the treatment had significant effects on their perceptions of the overall classroom climate as well as their perception of specific TARGET areas. The at-risk children in the intervention classrooms perceived their class as more mastery-oriented ($p<.01$) and as higher on the TARGET dimensions of Task ($p<.05$), Authority ($p<.01$), and Evaluation ($p<.05$) than did comparable children in the control classrooms (see Table 7). Consistent with the findings from the first year of the project, the intervention appeared to make a significant difference in how the at-risk children viewed their classroom experiences. In this second year, a randomly-selected group from each classroom was surveyed but, like the LD children, the intervention had no apparent effects on their perceptions of the classroom climate.

Insert Table 7 about here

For the at-risk students, there was also a significant treatment effect in their self-reported use of effective learning strategies. In contrast to the first year of the project, the effects of the intervention on the motivational variables were negligible. There were no other significant differences between the treatment and control classrooms. There were no interaction effects involving grade level for any group.

Repeated measures ANOVAs were then conducted separately for the treatment and control groups within the LD, at-risk, and randomly-selected groups. We found somewhat disparate results across the three groups of students (see Tables 8, 9, & 10). For the LD group (see Table 8), there was a significant decline from fall to spring in students' self-concept of ability and perceived competence in the treatment group and in their use of learning strategies in the control

group. For the at-risk group (see Table 9), there were significant declines in learning strategies and attitude toward school within both the treatment and control group although the decline in learning strategies was stronger in the control group (see ANOVA results, Table 7). There was also a significant decline in intrinsic motivation of at-risk students in the control group. For the randomly-selected group (see Table 10), there were significant declines in learning strategies and intrinsic motivation from fall to spring within the treatment group. What is apparent is that when there is a change from fall to spring assessments, there is a definite downward trend as was found within in the first year of the project. It was in the at-risk group alone that the declines tended to be more pronounced within the control than within the treatment group.

Insert Tables 8, 9, & 10 about here

We were also interested in examining whether teachers' perceptions of LD and at-risk children differed as a function of the intervention. Grade x Treatment ANOVAs were conducted on teachers' perceptions of LD and at-risk students combined, using the individual student as the unit of analysis. Table 11 shows that teachers in the treatment group perceived the LD and at-risk students as having made more progress in motivation ($\underline{M}$=3.16) and academic ability ($\underline{M}$=3.05) than did teachers in the control group ($\underline{M}$s=2.87 & 2.81, respectively) ($\underline{p}$s<.01). In addition, significant Grade x Treatment interaction effects on self-confidence, academic ability, and expectations showed that differences favoring the treatment group were evident in the upper elementary grades ($\underline{M}$=3.22 & 2.84) but not in the lower elementary grades. ($\underline{M}$s=3.13 & 3.17). Teachers in the treatment group also rated these children as having higher relative reading ability ($\underline{M}$=2.35) than did teachers in the control group ($\underline{M}$=2.13). It may be that participation in the intervention may have enhanced teachers' perceptions of the gains these children made over the course of the year. Teachers' perceptions are one important evaluative criterion for an intervention since these perceptions may contribute to self-fulfilling

prophecies in that they may influence how the teacher "treats" these children in the classroom.

Insert Table 11 about here

What these findings do suggest is that sustaining an intervention and its effects over time is much more difficult than demonstrating a short-term effect. In many schools, the demand on teachers to enter new projects, try out new materials, be a part of new programs, is quite high. The resulting "attention span" to an ongoing project is limited and the difficulty in sustaining an intervention over time reflects, in part, the pressures on teachers to become a part of the newest school initiative. Teachers' time and efforts are often fragmented, and they must respond to the demands of the school and district leadership which often puts pressures on them to engage in new programs that can detract from even valued ongoing programs. Hence, not only did we find some drop-out, even the continuing teachers did not seem to be able to make the same level of commitment in year 2 as they had in year 1 of the project.

In addition, changes in our methodology from the first to the second year may have weakened the impact or strength of the intervention. In the first year, participating teachers were identified on an a priori basis as being "above average teachers" by their principals. In this second year, however, at least one-third of the teachers in the treatment group were new to the project and for most of them, no criteria were used for their inclusion other than their expression of interest in the project.

What is the contribution of each TARGET area to the motivational outcomes for LD, at-risk, and the randomly-selected children? What patterns emerge among these different groups of children within the treatment group?

Prior research (e.g., Ames & Archer, 1988; see also Powell, 1991) has shown a strong relationship between students' perceptions of the mastery climate of the classroom and indices of motivational processes; however, no data are available on the relationship between student perceptions of each TARGET area and motivation

variables. We developed assessments of the TARGET areas and asked which TARGET areas contributed significantly to each motivation variable in those classrooms where the intervention was implemented. Using multiple regression analyses, the TARGET areas were used as predictor variables for each motivation outcome separately. Tables 12, 13, & 14 present a summary of the significant effects of these regressions for the LD, at-risk, and randomly-selected students, respectively. Where there was a significant F value for the overall regression model, the presence and significance level of the individual coefficients are noted.

Insert Tables 12, 13, & 14 about here

First, a strong pattern emerges for the randomly-selected students but only a weak pattern for the LD or at-risk students. For the randomly-selected students, their reported use of learning strategies was predicted by all the TARGET areas except Evaluation. In contrast, the Evaluation area predicted reported use of learning strategies for the at-risk and LD students. Although these findings are suggestive, how LD and at-risk students approach and engage in learning may be most dependent on how they think they will be evaluated. This hypothesis makes intuitive sense in that students who have learning difficulties may be especially reactive to different types of evaluation practices. Evaluative practices that allow them to make errors and that emphasize progress and improvement may foster attention to more effective strategies (i.e. if they are aware of them and know how to use them).

The regression analyses also showed that intrinsic motivation and perceived competence were predicted by the Task and Recognition areas for the randomly-selected students but by only the Task area for the LD students and only the Recognition area for the at-risk students. Students' interest in learning and their own sense of competence appears to depend on how tasks are designed and how much support they receive from the teacher. Finally, attitude toward school was also predicted by the Task and Recognition areas for the

randomly-selected students but by the Authority area for the LD and the Task area for the at-risk students.

Most apparent in these data were the significant effects of the Task and Recognition areas on the motivational outcomes of the randomly-selected children. For these children, how the teacher designs learning activities and whether the teacher makes the child feel worthwhile and important seem to be significant predictors of how they approach, engage in, and respond to learning activities. The area of Evaluation (i.e., how children perceive the evaluation practices of the teacher) appears to be more important to the motivation of children with expressed learning difficulties. Quite strikingly, the grouping area was not a significant predictor of any motivation outcome for the LD and at-risk groups although group learning methods have been viewed as especially important for low achieving children. The internal reliability on this particular scale, however, was marginal and may partly explain the absence of significant relationships.

Overall, this set of analyses showed significant contributions of the Task and Recognition areas to the motivation of children in the classroom. For children who are at-risk or LD, however, the perception that it is ok to make mistakes and that improvement is important seems to increase the likelihood that they will try to apply more effective learning strategies. These findings begin to shed some light on the multiple dimensions of the classroom and the impact of these dimensions on students' motivation.

From a longitudinal perspective, what was the impact of the intervention over the two-year period?

Since this was the second year of the intervention program, we were able to identify a cohort of LD and at-risk students who had been in intervention classrooms for two consecutive years and compare them with those students who had been in an intervention classroom for one year as well as with those who had not been in an intervention classroom either year. The attrition within these groups was quite large, however, making this set of analyses suggestive at best. Because of the small number of students involved, we combined the LD and at-risk students for this set of analyses. The

resulting numbers were 38 students who had been in treatment classrooms for two years (T-T), 20 students who had been in a treatment classroom the first year and a control classroom the second year (T-C), 27 students who were in a control and then a treatment classroom (C-T), and 22 students who had been in control classrooms both years.

Table 15 presents a summary of multiple regression analyses used to compare these groups. Comparisons were made on students' scores from the year 2 spring assessment. A significant overall F-value shows that the coefficient for the T-T, T-C, or C-T groups when compared to the control was not zero. The significant overall F value for learning strategies, showed that those students who had been in intervention classrooms for at least one of the two years reportedly used more effective learning strategies in Year 2 than students who had not been in an intervention classroom either year. More specifically, the T-T group (students who had been in intervention classrooms both years) and the T-C group (students who had been in an intervention the first year but not the second) were signficantly different from the control group (ps<.05).

Insert Table 15 about here

The findings also showed that children who had been in intervention classrooms for both years (T-T) or for the first year (T-C) perceived their classroom differently. They rated their current classroom as higher in the Task and Evaluation areas. Although the number of students involved in these analyses are small, the results suggest that the intervention may have cumulative effects, but they also suggest that the intervention was stronger in the first year than the second year.

Conclusion

The findings from this second year of the project contribute new information about how specific dimensions of the classroom climate are impacted by the TARGET intervention. The findings from this second year of the project also demonstrate the importance of

examining different groups of children within the classroom. The pattern of findings for the LD, at-risk, and randomly-selected children were strikingly different, and the effectiveness of an intervention may well depend on the characteristics of the students being assessed. The findings from this second year provide support for suggesting that the TARGET intervention may have the most important consequences for the at-risk students by changing the types of experiences these students have in the classroom. In addition, the intervention may impact how teachers perceive at-risk and LD children within their classrooms. Evaluations of the gains in motivation and academic abilities of the at-risk and LD students were more favorable among those teachers in the intervention than in the control group. Finally, the findings suggest that the intervention, itself, was perhaps stronger in the first year than in the second year of the project.

For the at-risk students, the intervention had important effects on how they perceived the classroom climate. Not only did these students perceive the classroom as more mastery-oriented, they perceived the Task, Authority, and Evaluation dimensions as more consistent with a mastery orientation when they were in an intervention classroom. For these students, the intervention also appears to increase their endorsement or willingness to use effective learning strategies. Of course, these are the very students who often are not knowledgeable of appropriate learning strategies, but our annecdotal data from teachers' verbal reports and record-keeping forms suggested to us that teachers in the intervention group focused a great deal on strategies related to helping students organize and manage their work and to helping students establish short-term goals.

Although we continue to find negligible intervention effects for the LD and randomly-selected students, we should not conclude that qualitative factors related to the classroom climate are not important for these students. In fact, we found a number of highly significant relationships between perceptions of the TARGET areas and motivation outcomes for the randomly-selected students. The Task and Recognition areas, in particular, proved highly predictive of

their motivation and self-evaluations. At the same time, we found different patterns emerging for those students with learning difficulties. Moreover, the longitudinal data on LD and at-risk students showed significant differences between those who had been in the project for two years (or the first year) and those who were in the control group both years in their perceptions of the Task and Evaluation areas and their use of learning strategies.

Although prior research has examined the relationship between overall classroom climate and student motivation, no research heretofore has attempted to identify specific dimensions of what we call a mastery-oriented climate. Our findings suggest that instructional strategies can be linked to the specific TARGET dimensions and that these dimensions can be assessed from the students' perspective. This study represented the first investigation of the relationship between the TARGET areas and motivation outcomes. Significantly different patterns emerged for the LD, at-risk, and randomly-selected children. The Task and Recognition areas appeared to be the most important predictors for the motivation outcomes of the randomly-selected children. Although only weak patterns emerged for the LD and at-risk children, the Evaluation area appeared to be more important for these students, at least when predicting their use of learning strategies.

In sum, then, the second year of the project provided new information about the specific TARGET areas and about the impact of the intervention and the TARGET areas for three different groups of students. The findings continue to be encouraging with regard to the impact of the intervention on at-risk students. Case studies of selected LD students (see Markward report, Appendix A) suggest that these students may not be well integrated into ongoing classroom activities. The absence of full and meaningful integration weakens the potential impact of any classroom-based intervention. Finally, our findings suggest that participating in the intervention can impact teachers' perceptions of at-risk and LD students. As participants in the intervention, teachers had opportunities to reflect on their own practice and identify strategies for improving the motivation and self-confidence of those students with expressed

learning difficulties. One consequence of the intervention appears to be that teachers take a more optimistic view of these students and begin to focus on the progress these students make over the course of the school year.

Table 7

F Values for Grade x Treatment Effects for Three Classifications of Students

(Year 2)

	LD			At-Risk		
Variables	Grade	Treatment	GxT	Grade	Treatment	GxT
Climate						
Mastery	.00	.41	.02	3.73	12.00**	.43
Task	.44	.41	.61	4.06*	5.49*	.00
Authority	1.22	.31	1.46	2.96	15.44**	.66
Recognition	.63	2.62	.32	2.01	1.94	1.02
Grouping	5.29*	.14	.01	4.08*	1.10	.00
Evaluation	.18	1.80	.26	3.15	6.59*	.20
Learning Strategies	.13	1.81	.08	6.10*	6.75*	.19
Intrinsic Motivation	.14	.22	.73	3.81	2.65	1.85
Attitude/School	.16	.07	2.22	3.67	1.57	1.86
Self-concept of Ability	1.39	.01	.23	6.78*	2.20	2.08
Perceived Competence	.00	2.40	.16	8.17**	.20	.01

*p<.05
**p<.01

Note: ANOVA conducted on students' scores aggregated to class level within each classification group

Table 8

Change from Fall to Spring on Motivation Variables for LD Students

(Year 2)

Variable	Fall	Spring	(Change)	F Value
		Treatment Group		
Learning Strategies	28.17	27.05	(-1.12)	1.27
Intrinsic Motivation	16.46	16.41	(-.05)	.01
Attitude/School	2.33	2.15	(-.18)	3.08
Self-Concept of Ability	20.22	17.37	(-2.85)	6.21*
Perceived Competence	30.50	28.90	(-1.60)	4.83*
		Control Group		
Learning Strategies	28.00	25.48	(-2.52)	5.58*
Intrinsic Motivation	17.00	15.83	(-1.17)	3.22
Attitude/School	2.66	2.09	(-.57)	2.39
Self-Concept of Ability	18.41	16.53	(-1.88)	3.20
Perceived Competence	29.11	29.09	(-.02)	.61

*p<.05

n = 23 classrooms in treatment group (11 in lower grades, 12 in upper grades)
n = 21 classrooms in control group (8 in lower grades, 13 in upper grades)

Table 9

Change from Fall to Spring on Motivation Variables for At-Risk Students

(Year 2)

Variable	Fall	Spring	(Change)	F Value
Treatment Group				
Learning Strategies	28.67	27.59	(-1.08)	6.15*
Intrinsic Motivation	17.54	17.06	(-.48)	2.06
Attitude/School	2.53	2.32	(-.21)	9.04**
Self-Concept of Ability	19.90	18.55	(-1.45(	2.76
Perceived Competence	30.65	30.12	(-.53)	1.66
Control Group				
Learning Strategies	28.00	25.88	(2.12)	15.38**
Intrinsic Motivation	17.36	16.19	(-1.17)	5.45*
Attitude/School	2.44	2.14	(-.30)	11.46**
Self-Concept of Ability	18.71	19.71	(+1.00)	1.21
Perceived Competence	29.79	29.67	(-.12)	.02

*p<.05
**p<.01

n = 32 classrooms in treatment group (17 in lower grades, 15 in upper grades)
n = 28 classrooms in control group (13 in lower grades, 15 in upper grades)

Table 10

Changes from Fall to Spring on Motivation Variables for Randomly-Selected Students

(Year 2)

Variable	Fall	Spring	(Change)	F Value
		Treatment Group		
Learning Strategies	28.77	27.72	(-1.05)	8.36**
Intrinsic Motivation	17.90	17.21	(-.69)	4.87*
Attitude/School	2.45	2.29	(-.16)	3.79
Self-Concept of Ability	21.00	21.07	(+.07)	.03
Perceived Competence	31.40	31.22	(-.18)	.23
		Control Group		
Learning Strategies	28.87	28.16	(-.71)	2.10
Intrinsic Motivation	17.37	16.63	(-.64)	2.70
Attitude/School	2.46	2.25	(-.21)	3.23
Self-Concept of Ability	20.91	20.80	(-.11)	.09
Perceived Competence	31.87	31.44	(-.43)	1.24

*p<.05
**p<.01

n = 32 classrooms in treatment group (17 in lower grades, 15 in upper grades)
n = 29 classrooms in control group (14 in lower grades, 15 in upper grades)

Table 11

Teachers' Perceptions of LD and At-Risk Children (Combined) in Treatment and Control Classrooms

(Year 2)

Variable	Treatment	Grade	Treatment x Grade
Relative Ability in Reading	4.47*	.09	.26
Relative Ability in Math	.31	.49	.11
Positive Change in Motivation	8.85**	2.58	.01
Positive Change in Self-Confidence	3.12	1.66	4.77*
Positive Change in Academic Ability	8.42**	5.29*	8.69**
Expectations for Next Year	2.46	1.22	3.93*

*p<.05
**p<.01

df = 1, 413 for all effects

(n's = 222 in treatment and 195 in control group)

Note: Significant Treatment x Group interactions showed treatment>control teachers at upper grade levels only.

Table 12

Regression of Target Areas on Motivation Variables for LD Students

(Year 2)

Variable	Overall F	TASK	AUTH	REC	GFP	EVAL
Learning Strategies	16.52***			*		*
Intrinsic Motivation	15.01***	*				
Attitude/School	2.89*		*			
Self-Concept/Ability	n.s.					
Perceived Competence	6.55***	*				

*p<.05
***p<.001

df = 5, 65 for overall F Value

Table 13

Regression of TARGET Areas on Motivation Variables for At-Risk Students

(Year 2)

Variable	Overall F	TASK	AUTH	REC	GRP	EVAL
Learning Strategies	18.88**					***
Intrinsic Motivation	13.25**			*		
Attitude/School	4.02**	*				
Self-Concept/Ability	n.s.					
Perceived Competence	13.36**			*		

*p<.05
**p<.01
***p<.001

df = 5, 124 for overall F Value

Table 14

Regression of TARGET Areas on Motivation Variables for Randomly-Selected Students

(Year 2)

Variable	Overall F	TASK	AUTH	REC	GRP	EVAL
Learning Strategies	15.35***	*	*	*	*	
Intrinsic Motivation	17.62***	***		**		
Attitude/School	4.54***	**		*		
Self-Concept/Ability	n.s.					
Perceived Competence	15.36***	*		***		

*p<.05
**p<.01
***p<.001

df = 5/112 for overall F Value

Table 15

Summary of Regression Analyses for LD and At-Risk Students: Longitudinal Data

(Year 2)

		Comparison Group		
Variable	Overall F	T-T	T-C	C-T
Mastery Climate	2.74*	1.27	2.13*	-.34
TASK	2.83*	2.42*	2.35*	.87
AUTHORITY	2.20	n.s.	n.s.	n.s.
RECOGNITION	2.51	n.s.	n.s.	n.s.
GROUPING	.71	n.s.	n.s.	n.s.
EVALUATION	3.31*	2.63*	2.11*	.59
Learning Strategies	2.85*	2.36*	2.72*	1.52
Intrinsic Motivation	1.55	n.s.	n.s.	n.s.
Attitude/School	.77	n.s.	n.s.	n.s.
Self-Concept of Ability	1.14	n.s.	n.s.	n.s.

*p<.05

Note: T-T = Treatment group both years (n = 38)

C-T = Control group first year followed by Treatment Group (n = 27)

T-C = Treatment group first year followed by Control Group (n = 20)

Control Group both years (n = 22)

YEAR 2: SCHOOL-TO-HOME COMMUNICATION STUDY

Year 2: School-to-Home Communication Study

Considerable research has focused on the impact of classroom learning environments on children's motivation processes (e.g., Ames & Archer, 1988; Covington & Omelich, 1984; Meece, 1991; Meece, Blumenfeld, & Hoyle, 1988; Mac Iver, 1988; Skinner, Welborn, & Connell, 1990; Stipek & Daniels, 1988); however it has been argued rather persuasively that the effectiveness of schools (and classrooms) depends to a significant degree on home environment factors (e.g., Coleman, 1987). A wide range of family-related variables (e.g., SES, one vs. two parent households, parenting styles, parenting strategies) have been studied in relation to children's achievement and academic performance, but recent research suggests that we should focus on the "motivational impact" of parents on children (Grolnick & Ryan, 1989, p.143; see also Dix, Ruble, Grusec, & Nixon, 1986; Hess & Holloway, 1985; Hess, Holloway, Dickson, & Price, 1984; Marjoribanks, 1983; Parsons, Adler, & Kaczala, 1982). This literature emphasizes the importance of parental beliefs, attitudes, and perceptions to cognitive and affective aspects of children's academic behavior. Parents' perceptions of their child's competence and motivation and orientation toward providing support, for example, may trigger specific parental strategies or styles that have direct consequences for the manifestation of different motivation patterns in children (see Grolnick & Ryan (1989), Hess & Holloway, 1985; Parsons et al., 1982).

Relationship Between Home and School

There is additionally a growing body of evidence which suggests that children's school performance depends on the quality of the relationship or linkage between home and school (Bronfenbrenner, 1979; Epstein, 1986). It has been argued that schools cannot provide an effective context for learning without the investment of the family in the learning process (Coleman, 1987; Comer, 1986, 1988). What has been often described as a conflict in mission or separateness of home and school (e.g., Lightfoot, 1978) has evolved not only from cultural dissimilarities between school and

home but also from policies and practices of schools that have failed to establish bridges between school and home. This separation has been described as a conflict of mission and expectations and as "mutual distrust" (Comer, 1988; Delgado-Gaitan, 1990). Recent calls for educational reform have put the relationship between the school and home near the top of the agenda (see also Epstein, 1986; Marjoribanks, 1983). Whether the relationship between the home and school is conceived as "overlapping spheres of influence" (Epstein, 1990) or as embedded social contexts or systems (Bronfenbrenner, 1979), the ability and success of schools in creating "knowledgeable partners" (Epstein, 1990) among parents has important consequences for parent and child relationships at home and children's success in school.

Research has documented the benefit to students' academic performance when parents are involved and interested in their child's schooling (Baker & Stevenson, 1986; Coleman, 1987; Epstein, 1990). Parents become active participants in their child's schooling when, for example, they show an interest in their child's learning, talk about school and learning activities, keep informed about school activities, and monitor schoolwork (e.g., Crouter, MacDermid, McHale, & Perry-Jenkins, 1990; see also Bronfenbrenner & Crouter, 1982; Maccoby & Martin, 1983). According to Walberg (1983, 1984a, 1984b), these quality factors in the home environment are important to children's success in school, and the effects are found in children's motivation and "receptiveness" to learning in the classroom (Walberg, 1984a).

Research also suggests that schools can influence children's home environment when they employ strategies to involve parents in their child's learning (Becker & Epstein, 1982; Epstein, 1986). Some parent involvement practices employed by teachers have been found to have positive effects on student achievement (Epstein, 1990; Fehrman et al., 1987; Stevenson & Baker, 1987; Walberg, 1984a), family processes such as parent-child interactions (Epstein, 1984), parent participation in school-like activities at home (Epstein, 1984), parental helping with learning and monitoring of homework (Epstein, 1984; Karracker, 1972) and support of the child (Fehrman,

Keith, & Reimers, 1987), parents' attitudes toward school and evaluations of teacher's competence (Becker & Epstein, 1982; Epstein, 1986), and parents own feelings of competence (Epstein, 1986).

Previous research on parent involvement has not focused on those perceptions and attitudes of parents that are likely to have motivational consequences for their child. Several methodolgical limitations have constrained the generalizations that can be made from this literature. For example, much of the research on parent involvement has relied upon teachers' reports of parent involvement, that is, teachers have been asked to rate the extent of parent's involvement or participation. Because teacher's ratings may be affected by perceptions of a child's achievement or behavior in the classroom, biased judgments supporting a positive relationship between parent involvement and children's academic achievement often result. In a related manner, parent involvement has often been defined by actual participation or visibility at the school or in the classroom. Such a definition may underestimate the level of involvement of many types of parents. When parent involvement is instead conceptualized as being knowledgeable about classroom learning activities, showing an interest in children's learning activities, and providing support at home (see Grolnick, Ryan & Deci, 1991), different types of parent involvement practices and parent outcomes become important to study. Many studies of parent involvement have relied upon large scale surveys of parent participation activities and have not targeted those perceptions and attitudes of parents that are likely to have motivational consequences for their child. Parent involvement practices used by teachers and schools are alterable, yet few studies have designed and evaluated interventions that manipulate specific kinds of parent involvement practices.

The cumulative literature suggests that parent involvement practices are alterable and that motivational consequences of specific practices should be studied within an intervention model. The present study which involved an intervention design was based on the premise that the quality and extent of parents' relationship with schools and teachers may influence their perceptions of their child,

their attitudes toward the teacher, and orientation toward schooling and learning (see Reynolds, 1991) in such a way as to have positive motivational consequences for their child.

Overview of Study

Teachers' practices for involving parents can take many forms. Epstein (1987, 1988, 1990), for example, has defined a typology of five different kinds of parent involvement practices. One type involves school-to-home communications which includes practices ranging from those that are often mandated at the district level (e.g., report cards, parent-teacher conferences, announcements of special events, printed information about policies and programs) to those that depend on the initiative of the individual teacher (e.g., information about learning activities within the classroom, progress reports, phone calls, home visits, invitations to help with specific activities) (Becker & Epstein, 1982; Epstein & Becker, 1982; Baker & Stevenson, 1986). School-to-home communications fall within this latter category and although they have been found to occur infrequently (Becker & Epstein, 1982; Epstein, 1986; Epstein & Dauber, 1991), some evidence suggests that parents may be particularly receptive to these communications. Many parents feel they do not have sufficient knowlege about children's classroom learning experiences to become involved (Baker & Stevenson, 1986; Lareau, 1987), and want more information from the school (Chavkin & Williams, 1989).

It therefore was the purpose of this study to manipulate the content and frequency of school-to-home communications within an intervention design that examined the effects of these communications on parents' support and perceptions of their child and, as a consequence, children's motivation. The study focused on three types of school-to-home communications which were defined as (1) providing parents with information about classroom learning activities, (2) providing parents with information about their child's progress and improvement in learning, and (3) providing parents with information about how they can help their child's learning at home. These communications were intended to increase parents' knowledge about children's experiences in the classroom, promote a positive attitude toward children's learning experiences, and provide positive feedback about the child's progress and strengths. We expected that the content and regularity of these communications

would influence parents' perceptions of their child's competence and motivation, their attitudes toward the teacher, and their supportiveness. We also hypothesized that these parental factors should be related to children's interest in learning, feelings of competence, and strategies for learning.

This study focused on teachers and parents of children at the elementary school level. Although research has shown that parents of younger children tend to be more involved in their child's learning (Baker & Stevenson, 1986), their involvement tends to fade as their child progresses through school (Reynolds, 1991). It is during these elementary school years that parents begin feeling disengaged from schools and their child's learning. It was therefore of interest to examine parent involvement and its consequences in the early (grades 2 & 3) and latter (grades 4, 5, & 6) elementary grades. Prior research on parent involvement has largely focused on the question of why there are differential levels of involvement across families with different characteristics (e.g., income level, education). In the present study, however, we were interested in the differential effects of parent involvement practices on parents of children with different characteristics. For example, parents may differ in their receptiveness to communications and information about their child as a function of characteristics of their child. Parents' of children with learning disabilities or of children who are underachieving may be particularly responsive to positive feedback about their child's improvement or accomplishments. At the same time, parent involvement programs have often been least effective with at-risk populations (see discussion by Rumberger, Ghatak, Poulos, Ritter & Dornbusch, 1990; see also Comer, 1986). It was, therefore, of particular interest to examine the effects of the intervention program for different types of children. Three groups of children who were studied included those with learning disabilities (the largest category of children receiving special services within the schools), those who had been identified as at-risk (underachieving children), and those who were selected at random from the same classrooms.

Method

Sample. Forty-four teachers from 16 schools across three midwestern school districts volunteered to participate in the project and implement the parent involvement program over the course of the year. These teachers were part of a larger project that additionally focused on changes within the classroom structure; the separate components of the project, however, were compatible and complimentary. A comparable, representative group of thirty-six teachers from the same schools served as a comparison group. The schools involved in the study were heterogeneous with respect to SES and ethnicity.

Within each classroom, three groups of children were identified, including those who were at-risk, learning-disabled, and randomly-selected. Each teacher was asked to nominate 4-5 children within the classroom who were at-risk for learning. The nomination criteria given to the teacher included the following, poor performance in school, low self-confidence, and lacking motivation and appropriate strategies for doing well in school. None of these at-risk children was classified as learning disabled although many received Chapter 1 or other special services within the school. All children who had been classified by the school as learning disabled formed the LD group. These children were mainstreamed but they spent from one to two hours outside the regular classroom each day receiving special services. Since classrooms and children were sampled initially, the range of the number of LD children across classes varied greatly both within and across districts. The number of children classified as LD varied from zero to nine across classrooms. Finally, within each classroom, 5 children were randomly chosen from those not designated as LD or at-risk to provide a comparison group for the at-risk and LD groups. The distribution of children by classification, grade, and group is shown in Table 16.

Insert Table 16 about here

Parent Involvement Strategies

Teachers participating in the intervention program received a set of materials at the beginning of the fall semester which defined the types of school-to-home communications and which provided a wide variety of examples of strategies within each type. The three types of communications and the defining attributes of each type are described in Table 17. The content of the intervention was, in part, derived from the findings of an open-ended survey of parents conducted the previous year. A qualitative summary of the results of this survey is presented in Appendix C. All teachers participating in the intervention group were given a copy of this summary.

Insert Table 17 about here

Teachers were asked to use at least one type of communication each week. Although teachers were allowed to choose from among the many strategies, they were asked to use at least one strategy within each of the three types of communication each semester. Many teachers planned a program for communicating to parents such as using a classroom newsletter weekly, a progress note every two weeks, and ideas for helping children in curriculum areas as needed. Other teachers sent home monthly newsletters describing classroom learning activities as well as weekly folders of the child's work with comments. Teachers were free to select strategies that best fit their program and grade level although they had to communicate with parents on a weekly basis. School newsletters, announcements, of school level events, parent-teacher association flyers, permission slips for field trips, and school level policy or curriculum statements were not counted as communications from the classroom teacher. General guidelines designated that the communications were to be from the classroom teacher and were to contain positive, instructionally meaningful, and personally-relevant information.

Procedure

This project was viewed as a collaborative effort between the teachers and research team. The teachers met monthly with the

project director and staff to discuss and share ideas on parent involvement strategies. Teachers in the intervention group completed weekly record-keeping forms identifying the type of communication and describing the specific strategy they used. The forms were collected monthly. During the year, there was no contact with the teachers in control group.

At the end of the spring semester, teachers, parents, and children were surveyed. Parent surveys were sent home with the children and were returned to the school in sealed envelopes. All parents were provided with a phone number which they could call to respond to survey questions over the phone. Fewer than 10 parents chose the option of the phone survey. Of the parents surveyed, 83% of the parents with children in the intervention classrooms and 81% of the parents with children in the control group classrooms returned the questionnaire, including 83% within the at-risk group, 83% within the LD group, and 88% within the randomly-selected group.

Teachers completed surveys at the end of the year; and during the last two months of school, children were tested. The testing was conducted in small groups outside the classroom during regular school hours.

Measures

Teacher Survey. Teachers were asked to rate the frequency with which they communicated to parents using the following practices, classroom newsletters, information about classroom activities and instructional plans, reports on child's progress, ideas for parents to use to help their child learn, notes on child's accomplishments and areas of improvement, folder of child's work with teacher's comments. Teachers rated how often they used each practice on a five-point scale (5 = very often, 1 = not often.

Parent Measures. Parents were asked to respond to questions that asked about their child's teacher's communication practices, their evaluations of the teacher, perceptions of their own child, and self-perceptions. The response format was generally the same for all items, involving a five-point scale (5 = strongly agree, 1 = strongly disagree).

Parents were asked to judge the quality of the teacher's overall communication practices on the following items: "This teacher really kept me informed about what my child was learning, ...gave me frequent progress reports about my child's progress, ...asked me to help my child with schoolwork, ...often told me about my child's accomplishments and strengths, ...made me feel like a partner in my child's learning,...helped me understand her/his program, ...gave me good ideas about how to help my child learn,...sent home newsletters that kept me informed." A second set of three items were used to judge the quality of the teacher's efforts to give parents information for helping their child learn in reading, math, and science.

Parent's evaluations of the teacher's instructional effectiveness were assessed by asking parents to rate how well the teacher kept them interested in their child's learning, liked their child as a person, encouraged their child, improved their child's interest in learning and motivation, improved their child's self-confidence, improved their child's abilities, and earned their admiration. These seven items had a coefficient alpha of .95.

Parents were asked a number of questions that related to their self-perceptions and perceptions of their child, including their perceived influence on their child's success in school; the amount of time they spend helping their child learn; their child's relative ability; their child's attitudes toward reading, math, and school; their child's feelings of competence, preference for challenging work, interest in learning, and effort; and their performance expectations for their child. The response format was a five-point scale although the labels for the end points varied. Across all items, 5 = high rating and 1 = low rating.

Child Measures. Except as noted, children responded to each item using a three-point scale that was designated as yes (3), sometimes (2), no (1).

Children's perceived competence was assessed using items adapted from Harter (1982) and Asher and Wheeler (1985). These items included: "I am pretty good at my schoolwork. I remember things easily. I can do the work in my class. We do many things in class that I can do well. I am just as smart at other kids my age. I

know how to get help on my schoolwork when I need it." The coefficient alpha for each group was .76 for LD, .74 for at-risk, and .70 for randomly-selected children.

Children's perception of their normative ability was assessed by asking them to select from a column of 25 circles (top circle representing the child who does best in reading and bottom circle representing the child who does worst in reading), the circle that showed how well they do in reading compared to the other children in the class. This procedure which yields a score from 1 to 25 has been described by Nicholls (1979).

Children's intrinsic interest in learning was assessed with eight items adapted from Gottfried (1985), including " I like doing my classwork. I like learning new things in reading. I like to try new things even if they are hard. I like learning new things in math. I like to find answers to problems. I like learning new things. I work hard because I want to learn new things. I like to work on hard problems." The coefficient alphas were .86 for LD, .84 for at-risk, and .85 for the randomly-selected groups of children.

Children's use of learning strategies was measured with 11 items adapted from Weinstein, Zimmerman, & Palmer (1988) Learning and Study Strategies Inventory. Examples of the eleven items used in this administration included "I keep working on a problem until I understand it. I hand in my classwork on time. I think about how to do my work before I start it. When I make mistakes, I try to figure out why." The coefficient alphas were .87 for LD, .85 for at-risk, and .84 for randomly-selected children.

Results

The primary question of the study concerned the effects of school-to-home communications on parents' perceptions and attitudes and the relationship between these perceptions and attitudes and children's psychosocial outcomes. Analyses addressing these questions were conducted separately for parents of learning disabled, at-risk, and randomly-selected children. As a prelude to these analyses, it was of particular interest to examine how parents across these three groups differed in their perceptions of their child's

ability, motivation and orientation toward school. Since prior research suggested that parents' views of their child and school differ as a function of their child's age or grade in school, grade level was also included in all analyses. However, to simplify the analyses, grades 2 and 3 were combined and designated as the lower grade levels and grades 4-6 were combined and designated as the upper elementary grade levels.

How do parents of LD, at-risk, and randomly-selected children differ in their perceptions and attitudes?

How parents of LD, at-risk, and randomly-selected children differed in perceptions of their child was examined using Grade (lower vs. upper) x Status (LD, at-risk, & random) analysis of variance procedures. The results of the ANOVAs are presented in Table 18 and means are presented in Table 19. The findings revealed grade level differences in parent's perceptions of their child's attitudes, feelings of competence, and effort. As would be expected parents of children in the lower grades viewed their child as having a more positive attitude toward reading and school, feeling more competent, and working harder than did parents of children in the upper grades.

Insert Tables 18 & 19 about here

There were a number of significant effects as a function of the child's classification. Parents of at-risk, LD, and randomly-selected children differed markedly in their perceptions of their child's ability, attitudes, feelings of competence, motivation, and normative ability. There was considerable consistency in the direction of these effects (see Table 19). Parents of LD and at-risk children perceived their child as having less positive attitudes toward specific subject matter areas, as feeling less competent, as being less interested in learning, and as having less ability than did the parents of randomly-selected children. In fact, parents of LD children rated the normative ability of their child lower than either of the other two groups of parents. Parents of LD and at-risk children also felt that they had less influence on their child's success at school and had lower

performance expectations than did parents of randomly-selected children. At the same time, however, parents of LD children reported spending more time helping their child learn than did parents of randomly-selected children.

The "perceptual" picture that parents of LD and at-risk children give us is rather discouraging. There were few differences between the LD and at-risk groups, although as might be expected, parents of LD children rated their child's ability and attitude toward reading lower than did parents of at-risk children. Overall, parents of at-risk and LD children had less positive perceptions of their child's ability, attitudes, and motivation and felt they had less influence on their child's success. The absence of any interaction effects suggests that these group differences emerge as early as second grade.

The above findings suggest that parents of LD and at-risk children hold less favorable views of their child than other parents. We can also ask how parents' perceptions of their child relate to children's self-views. Table 20 shows the parent-child correlations across common variables for the LD, at-risk, and random groups separately. For example, parents' perceptions of their child's attitude toward math and children's self-rated attitudes toward math were significant across all three groups. The correlations show moderate but significant relationships across all variables within the randomly-selected group. Within the LD and at-risk groups, parent and child perceptions were somewhat less strongly related especially on perceptions of the child's relative ability. Prior research has suggested that parental accuracy or the degree of correspondence between parent and child is greater for those children who perform better (e.g., Miller, Manhal, & Mee, 1991). Although we do not have actual classroom performance data, our findings within the randomly-selected group support this pattern. The dynamics that contribute to this situation are not clear although the implication is that these parents may be more attuned to their child's orientation and performance in school than parents of at-risk or LD children.

Insert Table 20 about here

Did teachers in the intervention group use more school-to-home communication strategies than teachers in the control group?

This question was analyzed using Treatment (Intervention vs. Control) X Grade (lower vs. upper) analysis of variance procedures. Teachers in the intervention group reported that they sent home classroom newsletters (F=42.67, $p<.01$), information about classroom activities and instructional plans (F=13.72, $p<.01$), and notes about children's accomplishments and improvement (F=4.52, $p<.05$) more often than did teachers in the control group (see Table 21). Folders of children's classwork with comments and suggestions for parent and child learning activities were strategies used more often by teachers in the lower grades than in the upper grades (F=12.78, $p<.01$ and F=14.54, $p<.01$, respectively).

Insert Table 21 about here

What was the correspondence between teachers' and parents' reports of school-to-home communications?

The correspondence between teachers' and parents' reports was first examined within each of the three classification groups, that is, for LD, at-risk, and randomly-selected groups of children. Table 22 shows the correlations between teachers' and parents' reports for different types of communication practices (combining treatment and control classrooms). For these analyses involving parents, the data were aggregated to the classroom level for each group (LD, at-risk, and randomly-selected) separately, and the mean for each group was used as the unit of analysis. There was a significant relationship between teachers' reports (sending home) and parents' reports of receiving classroom newsletters across all three classification groups. Equally apparent in the correlations was a generally stronger relationship between teachers' and parents' reports within the randomly-selected group.

Insert Table 22 about here

The next step involved comparing parents' reports between the treatment and control classrooms. Treatment X Grade ANOVAs were conducted on parents' reports of the teacher's communication practices. Again, the data for each group were aggregated to the classroom level, and separate analyses were conducted for the LD, at-risk, and randomly-selected groups. The ANOVA summaries are presented in Tables 23, 24, 25. Overall, the findings showed that parents of LD, at-risk, and randomly-selected children in the treatment classrooms reported being kept better informed about their child's learning and receiving more classroom newsletters than that parents of comparable children in the control classrooms. These findings provide strong corroboration of teachers' reports where these same two strategies were found to differentiate teachers in the intervention and control groups.

Insert Tables 23, 24, & 25 about here

Parents of LD children in the intervention classes (see Table 23) reported being kept informed, receiving progress reports and notes about their child's accomplishments, and receiving classroom newsletters more often than did comparable parents in the control classrooms. These main treatment effects, however, were tempered by significant interaction effects which showed that the differences between the treatment and control groups were present only in the lower grades. Although more children are classified as LD by the time they reach the upper elementary grades, our annecdotal evidence suggests that the teachers in the upper grades often relied on the special resource teachers to communicate with parents. The older children tend to spend more time in resource rooms, and as a result, the parent may become increasingly more involved with the resource teachers in discussing their child's progress and goals. In several instances, the classroom teacher expressed concern about how to communicate with these parents although they fully

acknowledged that these children needed support from many sources.

Within the at-risk group, the results (see Table 24) showed that parents of children in the intervention classrooms reported receiving more classroom newsletters and they felt better informed than parents of at-risk children in control classrooms. A main effect for grade level revealed that parents of children in lower grades felt better informed than those with children in the upper grades, and one interaction effect showed that information about their child's accomplishments was received most often by parents of younger children in the intervention classrooms. Overall, these findings suggest that the intervention had only weak effects on the parents of these at-risk children.

Parents of the randomly-selected comparison group reported receiving more newsletters and progress reports and being kept more informed about their child's learning in the intervention than in the control group (see Table 25). Significant grade level effects showed that parents of younger children reported receiving more communications of all types than parents of older children. The intervention seemed to have fairly strong effects on this group of parents.

The intervention, therefore, generally appeared to have significant effects on teachers' communication practices as assessed by teachers' reports and verified by parents' ratings. Clearly, however, teachers appeared reluctant to ask parents to help their child with learning activities at home and do not appear to provide them with ideas as to how to assist their child in learning activities. The effects of the intervention and the relationship between teacher and parent perceptions suggest a much stronger "connection" between teachers and the parents of the randomly-selected children. The parents of children with special needs appeared to be less receptive to the teacher's communications. From our data, it was not possible to determine if teachers actually communicated less to these parents (i.e., parents of LD or at-risk children); but it seems unlikely since newsletters are generally sent home with all students. Instead, it appears that these parents may be less aware of the

communications or less receptive to them. It may be the case that the same types of communications are not equally effective for all types of families and that teachers do not attend to these differential needs may occur at the classroom level.

Prior research has shown a relationship between age of child and degree of parental involvement in that the younger the child the greater is the involvement of parents (Stevenson & Baker, 1987). Our findings showed that teachers of younger children reported using certain communication practices (e.g., sending folders of classwork with comments, suggesting activities for parent and child to do together) more often than teachers of older children. It is possible that the greater involvement of parents of young children may result from differential teachers' practices, that is, teachers of young children use certain types of parent involvement strategies more often. It is also plausible, however, that parents of the older children do not receive the communications that are sent home or do not attend to them. The findings on parents within the randomly-selected group are especially supportive of these explanations.

How do school-to-home communications relate to parental perceptions and attitudes and then to children's motivation?

The correlations between school-to-home communication and the child outcomes showed that there was no siginificant direct effect of communications received by parents on children's feelings of competence, motivation, or use of learning strategies for LD (r_s = -.02, -.05, -.03, respectively), at-risk (r_s = .07, .13, .11, respectively), or randomly-selected (r_s = .01, .09, .01, respectively) children. Therefore, the indirect effects of school-to-home communication practices on children's motivation through parents' perceptions and attitudes were examined using path analysis procedures. Parental awareness of teacher's communication practices was expected to influence parents' perceptions and attitudes which, in turn, were expected to influence specific student attitudes. Such a hypothesized recursive causal system that placed parents' perceptions and attitudes as mediators between school-

home communication practices and children's self-evaluations and motivation is presented in Figure 1.

Insert Figure 1 about here

To examine empirically the conceptual relationship in Figure 1, different scales were first constructed to represent school-to-home communication practices, parents' perceptions, and student outcomes. These variables that were then entered into the model included the following:

(P-COMM) This scale was used to represent teachers' communication practices. It was the combined score on parent's reports of teacher's communication practices.

(P-COMM/SUBJ) This scale was used to represent teachers' communications in specific subject matter areas. It was computed as the sum of each parent's rating on the amount of information received from the teacher about how to help their child in reading, math, and science. The coefficient alpha for this three item scale was .89.

(P-ABILITY) and (P-MOTIV) These two separate scales represented parent's perceptions of their child's ability and motivation. Parents' perceptions of child's ability was a single item asking for parents' rating of their child's ability relative to other children in the class. Parents' perceptions of child's motivation was computed as the sum of parents' ratings of their child's attitude toward school, feelings of competence, desire for challenging tasks, interest in learning, and effort. The coefficient alpha for the motivation scale was .86.

(P-SUPPORT) This composite scale was used to represent parents' perceptions of their ability to help their child learn in math, reading, and science, how often they talked to their child about school, how much time they or someone in the home worked with the child on school-related activities, and how much influence they believed they could have on their child's success in school. The coefficient alpha for this scale was .81.

(P-TCH/EVAL) This scale was used to represent parents' evaluations of the teacher's effectiveness. It was computed as the sum of ten items that obtained parents' evaluations of the teacher's effectiveness, including items that asked the parent to rate how much the teacher improved the child's motivation, self-confidence, and academic ability, the quality the of learning activities the teacher provided, and whether the teacher encouraged the child. The composite scale had ten items with a coefficient alpha of .96.

(C-COMP) This scale represented the child's perceived competence and was constructed from the items on the perceived competence scale and children's rating of their relative ability in the class. The coefficient alpha for this composite scale was .74 for the entire sample.

(C-MOTIV) This composite scale was used to represent children's motivation and was constructed as the sum of items assessing children's intrinsic interest in learning and attitude toward school. The coefficient alpha was .83 for the entire sample.

(C-STRAT) This scale represented children's reported use of learning strategies and included all the items on the learning strategy assessment.

Using the above scales, the conceptual relationship in Figure 1 is specified in Figure 2. School-to-home communication practices were represented by P-COMM and P-COMM/SUBJ while the student outcomes were respresented by C-COMP, C-MOTIV, and C-STRAT. Parents' perceptions as the mediating variables were represented by P-ABILITY, P-MOTIV, P-SUPPORT, and P-TCH/EVAL. The plus (+) signs along the causal arrows indicate the positive direction of hypothesized relationships. The specified path model in Figure 2 is recursive and, therefore, a recursive path analysis technique was used to examine the direct and indirect relationship between school-to-home communication practices and student outcomes.

Insert Figure 2 about here

The path model in Figure 2 is represented by a set of linear equations as:

$$\text{P-ABIL} = \alpha_1 + \beta_1 \text{ P-COMM} + \beta_2 \text{ P-COMM/SUBJECTS} + \varepsilon_1$$

$$\text{P-MOTIV} = \alpha_2 + \beta_3 \text{ P-COMM} + \beta_4 \text{ P-COMM/SUBJECTS} + \varepsilon_2$$

$$\text{P-SUPPORT} = \alpha_3 + \beta_5 \text{ P-COMM} + \beta_6 \text{ P-COMM/SUBJECTS} + \varepsilon_3$$

$$\text{P-TCH/EVAL} = \alpha_4 + \beta_7 \text{ P-COMM} + \beta_8 \text{ P-COMM/SUBJECTS} + \varepsilon_4$$

$$\text{C-COMP} = \alpha_5 + \beta_9 \text{ P-COMM} + \beta_{10} \text{ P-COMM/SUBJECTS} + \beta_{11} \text{ P-ABIL} + \beta_{12} \text{ P-MOTIV} + \beta_{13} \text{ P-SUPPORT} + \beta_{14} \text{ P-TCH/ABIL} + \varepsilon_5$$

$$\text{C-MOTIV} = \alpha_6 + \beta_{15} \text{ P-COMM/SUBJECTS} + \beta_{17} \text{ P-ABIL} + \beta_{18} \text{ P-MOTIV} + \beta_{19} \text{ P-SUPPORT} + \beta_{20} \text{ P-TCH/ABIL} + \varepsilon_6$$

$$\text{C-MOTIV} = \alpha_6 + \beta_{15} \text{ P-COMM} + \beta_{16} \text{ P-COMM/SUBJECTS} + \beta_{17} \text{ P-ABIL} + \beta_{18} \text{ P-MOTIV} + \beta_{19} \text{ P-SUPPORT} + \beta_{20} \text{ P-TCH/ABIL} + \varepsilon_6$$

$$\text{C-STRAT} = \alpha_7 + \beta_{21} \text{ P-COMM} + \beta_{22} \text{ P-COMM/SUBJECTS} + \beta_{23} \text{ P-ABIL} + \beta_{24} \text{ P-MOTIV} + \beta_{25} \text{ P-SUPPORT} + \beta_{26} \text{ P-TCH/ABIL} + \varepsilon_7$$

Since parents' perceptions and beliefs were assumed to be influenced by how each parent interprets and gives meaning to the teacher's communications, the individual parent was used as the unit of analysis for estimation of path coefficients. Moreover, the relationship in the path model may be sensitive to the characteristics of the students. The path coefficients, therefore, were estimated separately for LD, at-risk, and randomly-selected students.

The means and standard deviations for the scales in the path model are presented in Table 26 separately for the LD, at-risk, and randomly-selected students. Their correlation coefficients are presented in Tables 27, 28, and 29.

Insert Tables 26-29 about here

The path coefficients were estimated by the SAS procedure CALIS (Covariance Analysis of Linear Structural Equations) using the LINEQS model specification. The estimated path coefficients that were significant at the $p<.05$ level are presented in Figures 3, 4, and 5 for the LD, at-risk, and random groups of students, respectively.

Insert Figures 3, 4, & 5 about here

The standard path coefficents in Figures 3, 4, & 5 were used to examine the direct relationship between school-to-home communication practices and student outcomes. When this was done, the results indicated no direct relationship between communication practices and student outcomes for each separate group of students. The results, however, did indicate the presence of a significant indirect relationship through parents' perceptions for a subset of student outcomes although the indirect relationship was not uniform across the different groups of students.

The path analysis showed significant path from parents' awareness (or attention) to teachers' communications (P-COMM) to parents' evaluations of the teacher's effectiveness (P-TCH/EVAL) and their perceptions of their child's motivation (P-MOTIV). This was consistent across all three groups of students. It was hypothesized that positive communications from the teacher (especially those that focus on children's strengths, accomplishments, and progress) can impact parents' view of their child as a learner. It also appears that parents' confidence in their child's teacher is related to the frequency and quality of teachers' school-to-home communication practices.

There was also a significant path from P-COMM/SUBJ to P-SUPPORT across all three groups. Those communications that provide information to parents about how to help their child in specific subject matter areas appears to be related to parents' involvement with their child's learning. The path from P-SUPPORT to the child outcomes, however, was discrepant across the groups. Parental support or involvement had significant and positive effects on the LD child's self-concept of ability (C-COMP) but negative effects on their use of effective learning strategies (C-STRAT). This unexpected latter effect may suggest that the nature of the involvement of parents of LD children may not be effective in helping these children develop appropriate strategies for learning. This explanation seems credible since parental support had a positive and significant effect on children's use of learning strategies within the randomly-selected

group. At the same time, there were no significant paths between parental support and any of the child outcomes within the at-risk group.

Positive and significant paths were found between parents' perceptions of their child's motivation (P-MOTIV) and children's self-evaluations and motivation across all groups. This finding suggests that communications that provide favorable information about the child and the child's learning in the classroom may influence how parents view their child's motivation. School-to-home communications, therefore, appear to have indirect effects on children's self-evaluations and motivation through their influence on parental processes, that is, parents' perceptions of their child's motivation and parental support.

Discussion

In this project, it was our intent to examine the relationship between teacher's parent involvement practices and parents' perceptions, support, and attitudes, and children's resulting motivation within an intervention design. Prior research has largely focused on the different ways teachers try to involve parents as well the relationship between parent involvement and family characteristics or student achievement. In this study, we examined a set of processes that may be affected by specific types of parent involvement practices. And, more specifically, we studied the effects of school-to-home communication practices on parents' perceptions of their child's competence and motivation, parental support for the child, and parents' evaluations of teacher effectiveness. In addition, we were interested in how these parental processes related to children's feelings of competence, motivation, and use of learning strategies.

Prior research that has focused on family characteristics (e.g., income level, education) or age of child suggests that lower income families may lack the kind of information and knowledge about children's experiences in school that would enable them to become involved (e.g., Baker & Stevenson, 1986; Delgado-Gaitan, 1988; Lareau, 1987; Rumberger,et al ,1990). Our findings suggest that it is

indeed more difficult for teachers to connect with parents of at-risk children than with other groups. Parents of the at-risk children appeared to be less aware of the teacher's communications or less attentive to the content of the communications. Although parents of LD children appear to be more aware of the teacher's communications, they were certainly not as aware or attentive as parents of children in the randomly-selected group. Nevertheless, our findings also showed that teacher's communication practices can impact how parents of all children view their child and the school.

It has also been widely discussed that parents tend to be more involved in their child's school activities when their child is young (Baker & Stevenson, 1986). Our findings suggest that the "fading effects" of parent involvement as children progress through school (see Reynolds, 1991) may result from changes in teachers' practices of parent involvement. Teachers of young children in our sample, for example, reported sending home folders of children's classwork and activities for parent and child to do together more often than teachers of the older children. It is likely that since these and other communication practices from the teacher are less frequent in the upper grades, parents' familiarity with the school and understanding of school programs declines, and they become disengaged (see also Reynolds, 1991). Support for this conclusion is found in the strong grade level differences among the parents of randomly-selected children. Within this group, parents of younger children reported receiving significantly more communications from the teacher than did parents of older children. Thus, it may not be that parents are less attentive when their children get to the upper grades, but instead, that teachers communicate with them less.

In previous research, teachers have been asked to provide information about their own practices of parent involvement and, as well, to assess the level of individual parent's involvement. In the present study, however, parents' reports were used to corroborate teachers ratings of how often they used specific communication practices. The simple correlations showed greater congruence between the reports of teachers and parents of the randomly-selected children. The parents' reports suggest either differential use

by teachers of some practices (e.g., progress reports) within the classroom or differential receptiveness to specific types of communications on the part of parents. For example, there was little congruence between teacher's reports of sending progress notes and parent's reports of receiving them within the LD and at-risk groups. Although the use of progress reports would seem to be especially important for parents of at-risk or LD children, either the teachers did not send them as frequently as they indicated or parents did not receive them or attend to them.

The teacher and parent reports provided evidence from different perspectives about whether the intervention proved effective in increasing certain types of communications. Teachers in the intervention group reported sending more classroom newsletters, information about classroom learning activities, and notes on children's accomplishments and improvement than did teachers in the control group. Likewise, parents of children in the intervention classrooms reported they received more classroom newsletters and felt better informed of their child's learning activities than parents of children in the control group. The parents' reports, however, were not uniform. The differences between the intervention and control groups were greater in the reports of parents of randomly-selected children. The parents of the randomly-selected children appeared to be the most attentive to the teacher's communications. In contrast, the parents of at-risk children even in the intervention classrooms seemed least receptive to communications.

In this study, we focused on parents of children with learning disabilities, those identified as at-risk, and others who were randomly-selected from each classroom. Our findings showed distinct differences between parents of at-risk or LD children and parents of randomly-selected children in their perceptions of their child as well as differences in their receptiveness to teacher's communications. Additionally, our findings revealed different paths within these three groups by which school-to-home communications may relate to parents' perceptions and, as a result, contribute to child outcomes.

The path analysis allowed us to examine the indirect effects of school-to-home communication on children's outcomes through parents' perceptions and attitudes. As noted, the direct effects proved nonsignficant but the significance of the indirect effects model showed that parents' perceptions and attitudes are important processes in understanding parent involvement. Consistent across all groups was the strong direct effect of parent's attention to teacher's communications on parent's perceptions of their child's motivation which, in turn, had effects on children's self-reported motivation and use of learning strategies. The types of communications assessed included those (e.g., progress reports, notes about accomlishments, information about learning activities) that ought to foster a positive view of children's orientation toward learning. It is quite striking that these relationships were evident in all three groups.

A second notable path was the direct effect of information about helping children in the subject matter areas on parent's support for the child's learning. These effects were significant across all three groups; however, the path from parental support to children's learning strategies was positive and significant only for the randomly-selected group. In fact, the direct effect of parental support to children's learning strategies was negative for the LD group. It might be the case that parents of LD children provide counterproductive types of support or they may not be able to help these children develop appropriate strategies for learning (see also Grolnick, Ryan, & Deci, 1991). Parents of LD children may not have the skills, training, or appropriate manner of working with their child on learning tasks. The ordinary "conflicts" that may arise between parent and child over homework may very well become exacerbated when the child is learning disabled. Hence, the LD child's strategies for learning may not be enhanced by some forms of parental involvement. Finally, there was a direct path linking parent's awareness or attention to communication practices and their evaluations of the teacher's effectiveness. This effect was strong in all three groups and underscores the impact of communications on how parents view the teacher.

In general, the path model shows that parent's perceptions and attitudes may have a mediating role in building a model of parental involvement. Communications that contribute to parent's knowledge of schools, to parent's views of their child as a learner, and to parent's role as a helper may have significant consequences for specific perceptions and attitudes that relate to children's motivation. The findings suggest that these parental perceptions and attitudes ought to be the target or focus of specific communications from the teacher. These processes provide a context within the home that can contribute to how children approach and engage in learning. Certainly, the findings here provide enough basis for further research on the mediating role of parental perceptions in parent involvement. Heretofore, little has been known about the differential relationships between communication practices and parent's perceptions and attitudes across different groups within the classroom. Moreover, conceptual linkages have not been well articulated in the literature. Nevertheless, our findings provide a basic framework for beginning to define parental processes that may be impacted by teacher's communication practices and for identifying how these processes mediate the impact of these communications on children's outcomes.

Although parent involvement has been defined in different ways, it has often been described within programs that emphasize parent participation in the classroom or school, parents as teachers, or parents as participants in school-based decisions. Many of these programs focus on the visibility of parents in classrooms, at school activities or on advisory boards and councils. These practices often reach only a small group of parents. When parental involvement is instead construed as providing a socializing role and support system at home, alternative strategies for involving parents become important. It has been argued (see Epstein as cited in Brandt, 1989) that it is the responsibility of schools to establish "connections" with a wide range of families and that schools must provide information to parents that doesn't require them to come to the school building. Parents can impact children's academic behavior not only by directly helping them learn but also by providing encouragement, holding

positive perceptions, and supporting learning endeavors. Powell (1991), for example, describes the school as a "family support system." Such a conception places responsibility on the school for connecting with families. Our findings indeed suggest that when these connections are in the form of meaningful communications to the parent that focus especially on positive qualities of their child and classroom learning activities, they can influence parental perceptions and attitudes that have consequences for children's self-evaluations and how children become involved in learning. Parent involvement and support is not only related to children's motivation in the immediate sense, it may serve a preventive function against later school drop-out (Delgado-Gaitan, 1988; Rumberger et al., 1990).

It is not enough to mandate policies for involving parents. Policies are not enough to sustain teacher's initiatives at the classroom level (Powell, 1991), and the classroom is the core of the child's learning experiences. An important component of this intervention was providing actual strategies for teachers to use in communicating with parents. For example, one area focused on providing parents with information about what children were learning and doing in the classroom. The intent was to give parents an understanding of their child's experiences at school and make them feel comfortable talking with their child about school. One strategy for doing this involved newsletters, and teachers were given prototypical materials for constructing many different types of newsletters. They were also given information about how to make newsletters effective, that is, increasing the likelihood that the newsletter would be taken home, read by or to the parent, and understood. Parent involvement strategies such as these are as integral to a child's schooling as planning the day-to-day learning activities for the classroom.

Parent involvement requires a rethinking of the teacher's role in the classroom and school. It means that the teacher's responsibility extends beyond the classroom to making parents a part of children's learning. Our findings suggest that teacher's practices of parent involvement should be targeted to parents' perceptions especially their perceptions of their child as a learner.

When parents hold positive perceptions of their child, they may become more interested and supportive. In actual practice, teachers often convey negative information to parents--information that tells parents about their child's problems and difficulties or focuses parents on their child's disability. This information may only serve to discourage parents and lower their expectations. Instead, information that focuses parents on what their children are learning and their child's progress and improvements may be more likely to instill positive perceptions that facilitate an involvement.

Our findings also suggest that providing parents with information about how to help their child learn may not have the intended effects. While this information appeared to have positive effects for the randomly-selected children, this information had negative consequences for LD children, and no effects for the at-risk group. It may be hypothesized that the information may not have been appropriate or adequate to enable the parents of LD children to help their child. Unless the materials are adapted or contain special information, these kinds of communications may have detrimental effects on the family when an LD child is involved. At the same time, the information appears not to reach the parents of at-risk children. They may not receive the information or attend to it because of a lack of skills. It is quite clear that communications that are intended to involve parents in the "teaching" process must be sensitive to the characteristics of the child and family situation. And, as our findings for the LD children suggest, the consequences may be negative for some children.

Active school-to-home communication practices may serve to arrest the disengagement process that characterizes many families as their children progress through school (Rumberger et al., 1990). These communications must focus on parents' knowledge and information about classroom activities, perceptions of their child's motivation and attitudes and, as a result, these communications may influence those processes that mediate and predict children's motivation and related self-evaluations.

Table 16

Distribution and Classification of Children by Grade

	Intervention Classrooms			Control Classrooms		
	At-Risk	LD	Random	At-Risk	LD	Random
Grade 2	34	12	32	32	9	33
Grade 3	61	21	56	34	13	39
Grade 4	57	28	43	37	17	32
Grade 5	22	23	25	15	13	16
Grade 6	0	0	0	3	2	4

Table 17

Three Types of School-to-Home Communication

1. Provide information about classroom learning.

Provide parents with information about classroom activities, what the child is learning, instructional goals, general curriculum, specific objectives for a unit of study, and classroom policies related to schoolwork and homework.

Intended purpose:

a. To make parents knowledgeable about classroom learning activities and the learning process itself.

b. To encourage parents to talk with their child about school and classroom activities.

c. To enhance parents' interest in what their child is learning and to get them to express this interest and enthusiasm to their child.

d. To encourage parents to communicate positive attitudes about what the child is learning but these attitudes should be linked to specific activities, events, topics, or assignments.

Communication strategies:

a. Classroom designed newsletters

b. Invitations to parents to visit classroom

2. Give parents positive information about their child.

These communications focus on the child's progress, improvement, positive qualities, and accomplishments. They can serve to identify areas for improvement and how parents can help the child achieve these goals. These communications are positive in content and help the parent see the child in a favorable manner and foster a belief in parents that the teacher is genuinely interested in their child's well-being.

Intended purpose:

a. To help parents recognize their child's positive qualities, accomplishments, progress, improvement and effort.

b. To help parents recognize areas where their child needs extra help or assistance.

c. To assist parents in establishing expecatations, standards, and goals for specific behavior and performance.

d. To encourage parents to monitor their child's schoolwork and homework.

e. To establish a trusting relationship between the teacher and parent.

Table 17 Cont'd

Communication strategies:

a. Personal notes, messages or comments sent home

b. Work folders or assignment notebooks with teacher comments

c. Telephone contact, conferences with parent, home visits

d. Teacher/parent/child contracts

3. Involve parents in helping their child learn.

Invite parents to work with their child on learning activities, providing structure and direction for the parents. Parents often want to help but are unsure how to do so. The parent must also be made to feel competent to help. The time required for parent participation should be reasonable. The kind of parent assistance requested depends on the goals. Some children need extra learning time and more practice (review and remediation activities), some activities at home can enhance children's interests and learning (complementary or enrichment activities), and other activities can serve to simply foster parent and child interaction on specific topics (discussion activities).

Intended purposes:

a. To provide extra learning time for some children.

b. To enhance children's interest in learning by involving parents in the process.

c. To foster parent-child interaction around learning activities.

d. To extend and enrich children's learning by encouraging learning activities at home.

Communication strategies:

a. Provide ideas or tips for parents on how to help their child with assignments or specific learning activities.

b. Provide ideas for review and remediation activities.

c. Suggest learning activities that are complementary to classroom learning.

d. Set up workshops, group meetings, or conferences to instruct parents on how to help their child at home.

Table 18

ANOVA Results on Parents' Perceptions of Their Child

	F-Values		
Question/Item	Status	Grade	Status x Grade
Perceived influence on child	6.52**	.48	2.80
Time spent helping child learn	5.63**	1.81	.04
Child's attitude/math	9.95***	2.28	.52
Child's attitude/reading	8.72***	12.12***	.81
Child's attitude/school	1.32	4.29*	.27
Child's feelings of competence	19.83***	6.76**	.33
Child's desire for challenge	7.29***	.35	.65
Child's interest in learning	7.74***	.60	1.25
Child's effort	5.80**	6.73**	.08
Child's relative ability	112.37***	1.77	1.29
Performance expectations	46.22***	1.59	1.69

*p<.05
**p<.01
***p<.001

Note = ns = 258 for at-risk group, 126 for LD group, 279 for randomly-selected group, 339 for grades 2 & 3 combined, 324 for grades 4 & 5 combined.

Table 19

Comparison Among Parents of LD, At-Risk, and Randomly-Selected Children

	Group Means		
Question/Item	LD	At-Risk	Randomly Selected
Perceived influence on child's success	4.15_a	4.24_a	4.42_b
Time spent helping child learn	3.87_b	3.68_{ab}	3.57_a
Child's attitude/math	3.60_a	3.64_a	4.01_b
Child's attitude/reading	3.52_a	3.83_b	4.07_c
Child's attitude/school	3.93	4.03	4.12
Child's feelings of competence	3.43_a	3.47_a	3.96_b
Child's desire for challenge	3.29_a	3.43_a	3.71_b
Child's interest in learning	3.91_a	4.07_a	4.27_b
Child's effort	3.79_{ab}	3.70_a	3.99_b
Child's relative ability	3.03_a	3.24_b	4.15_c
Performance expectations	3.62_a	3.82_a	4.35_b

Note: Means with different subscripts are significantly different at the .05 level using Tukey (HSD) tests.

Table 20

Correlation Between Parent Perceptions and Child Self-Perceptions

	Classification Groups		
Variable	LD	At-Risk	Randomly-Selected
Attitude/Math	.29**	.30**	.44**
Attitude/Reading	.16*	.21**	.29**
Attitude/School	.09	.20**	.36**
Intrinsic interest	.30**	.15*	.30**
Relative ability	.03	.08	.23**
	n=120	n=230	n=273

*p<.05
**p<.01

Table 21

Teachers' Reports of School-to-Home Communication Practices

	F-Values		
Practice	Treatment	Grade	Treatment x Grade
Classroom newsletters	42.67**	2.36	.04
Information about classroom activities and instructional plans	13.72**	.53	.00
Reports on child's progress	1.99	.30	.16
Ideas on how to help child learn	.18	2.84	1.75
Notes on child's accomplishments and areas of improvement	4.52*	.53	1.06
Folder of child's classwork with comments	1.70	12.78**	1.32
Activities for parent and child to do together	.14	14.54**	1.31

*p<.05
**p<.01

Note: n=43 teachers in treatment group
n=35 teachers in control group

Table 22

Correlations Between Teacher and Parent Reports on Communication Practices

Type of Communication	LD (n=54)	At-Risk (n=77)	Randomly-Selected (n=81)
Information about child's learning	.26	.28*	.31**
Classroom newsletters	.30*	.34**	.39***
Progress reports	.11	.07	.39***
Ideas to help child learn	.16	-.21	.11
Notes on strengths and accomplishments	-.01	.09	.25*

*p<.05
**p<.01
***p<.001

Note: n based on group mean at the classroom level.

Table 23

Parent Reports on Teacher Communication Practices:
Parents of LD Children

	F-Values		
Practice	Treatment	Grade	Treatment x Grade
Received newsletters about classroom activities	7.97**	4.72*	2.01
Kept me informed bout my child's learning	6.48*	.09	4.86*
Received reports on child's progress	5.35*	.147	8.59*
Gave me ideas to help my child learn	2.43	.29	12.62**
Asked me to help child learn	1.57	.21	5.30*
Told me about child's strengths and accomplishments	4.26*	.36	11.14*
Made me feel like a partner	3.58	1.29	10.17**
Helped me understand programs	2.11	1.68	9.34**

*p<.05
**p<.01

Note: n=31 classes in intervention group
n=20 classes in control group

Table 24

Parent Reports of Teacher Communication Practices:
Parents of At-Risk Children

	F-Values		
Practice	Treatment	Grade	Treatment x Grade
Kept me informed about my child's learning	4.43*	5.92*	.02
Received reports on child's progress	1.73	.61	1.72
Asked me to help child learn	2.77	.37	.04
Told about child's strengths and accomplishments	.08	.00	4.96*
Made me feel like a partner	1.31	1.34	.70
Helped me understand programs	1.59	1.47	.01
Gave me ideas to help my child learn	.05	2.45	.71
Received newsletters about classroom activities	4.19*	.91	.02

*p<.05

Note: n=42 classes in intervention group
n=33 classes on control group

Table 25

Parent Reports on Teacher Communication Practices:
Parents of Randomly-Selected Children

		F-Values	
Practice	Treatment	Grade	Treatment x Grade
Kept me informed about my child's learning	11.76**	7.83**	3.35
Received reports on child's progress	9.66**	4.98*	.88
Asked me to help child learn	2.77	6.68*	2.64
Told me about child's strengths and accomplishments	3.21	7.26**	.23
Made me feel like a partner	5.28*	6.00*	2.65
Helped me understand programs	2.42	5.94*	2.14
Gave me ideas to help child learn	.83	11.21**	3.04
Received newsletters about classroom activities	10.40**	2.70	2.88

*p<.05
**p<.01

Note: n=43 classes in intervention group
n=36 classes in control group

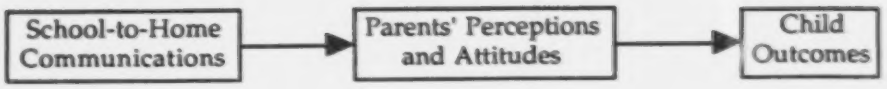

Figure 1. Hypothesized Causal Systems

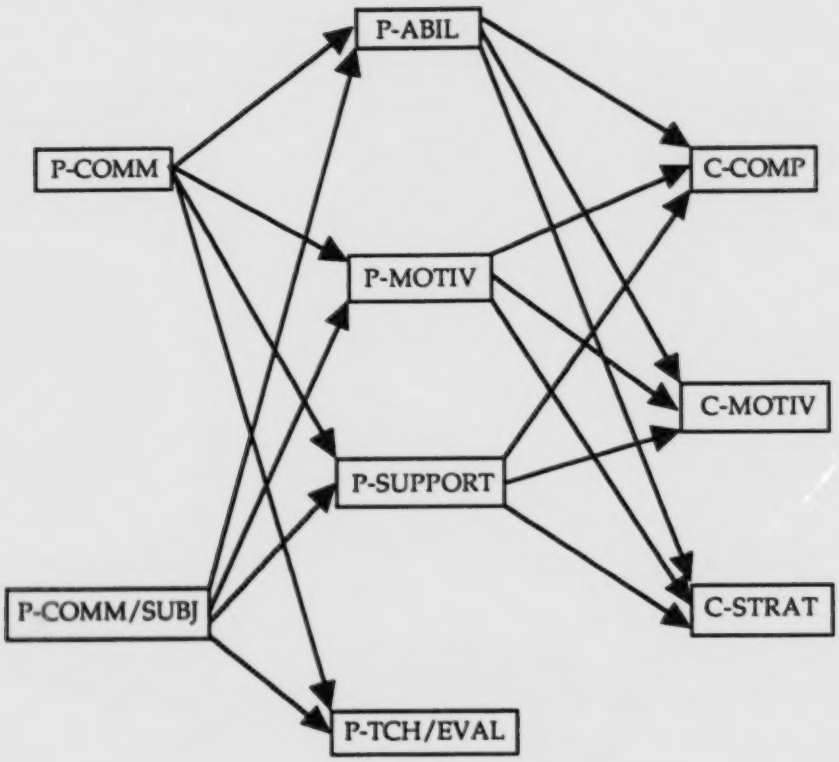

Figure 2. Specified Path Model

Table 26

Means and Standard Deviations for the Scales in the Path Model

	LD		At-Risk		Random	
Scale	M	(SD)	M	(SD)	M	(SD)
P-COMM	31.28	(7.67)	31.28	(7.62)	29.77	(7.48)
P-COMM/SUBJ	10.30	(3.17)	10.01	(3.34)	9.09	(3.60)
P-ABIL	2.98	(.79)	3.24	(.81)	4.14	(.85)
P-MOTIV	18.32	(4.38)	18.67	(3.92)	20.07	(3.91)
P-SUPPORT	28.38	(4.31)	28.61	(4.63)	29.21	(3.96)
P-TCH/EVAL	11.93	(3.04)	11.64	(3.09)	11.72	(2.86)
C-COMP	31.38	(7.71)	33.75	(7.00)	36.57	(5.81)
C-MOTIV	18.31	(4.04)	18.83	(3.90)	19.19	(3.77)
C-STRAT	26.34	(4.86)	26.85	(4.36)	27.85	(4.00)

ns = 118 LD, 247 at-risk, and 264 randomly-selected children

Table 27

Correlation Matrix for Scales in Path Model for Estimating Sample of LD Children

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. P-COMM	__								
2. P-COMM/SUBJ	.65	__							
3. P-ABIL	.14	.19	__						
4. P-MOTIV	.24	.41	.36	__					
5. P-SUPPORT	.26	.37	.31	.50	__				
6. P-TCH/EVAL	.75	.72	.22	.49	.37	__			
7. C-COMP	-.02	-.03	.09	.10	.26	.03	__		
8. C-MOTIV	-.05	.01	.10	.30	.06	.02	.29	__	
9. C-STRAT	-.03	-.05	.15	.22	-.01	.02	.22	.77	__

Table 28

Correlation Matrix for Scales in Path Model for the Estimating Sample of At-Risk Children

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. P-COMM	--								
2. P-COMM/SUBJ	.66	--							
3. P-ABIL	.16	.05	--						
4. P-MOTIV	.39	.31	.43	--					
5. P-SUPPORT	.34	.42	.32	.49	--				
6. P-TCH/EVAL	.77	.65	.23	.53	.39	--			
7. C-COMP	.07	.08	.09	.15	.10	.11	--		
8. C-MOTIV	.13	.16	.12	.24	.07	.17	.28	--	
9. C-STRAT	.11	.12	.13	.23	.06	.16	.30	.72	--

Table 29

Correlation Matrix for Scales in the Path Model for the Estimating Sample of Randomly-Selected Children

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. P-COMM	--								
2. P-COMM/SUBJ	.58	--							
3. P-ABIL	-.02	-.14	--						
4. P-MOTIV	.35	.22	.43	--					
5. P-SUPPORT	.32	.32	.25	.38	--				
6. P-TCH/EVAL	.66	.56	.07	.54	.33	--			
7. C-COMP	.01	-.01	.27	.28	.13	.07	--		
8. C-MOTIV	.09	.07	.12	.36	.19	.23	.33	--	
9. C-STRAT	.01	-.00	.09	.18	.20	.10	.38	.65	--

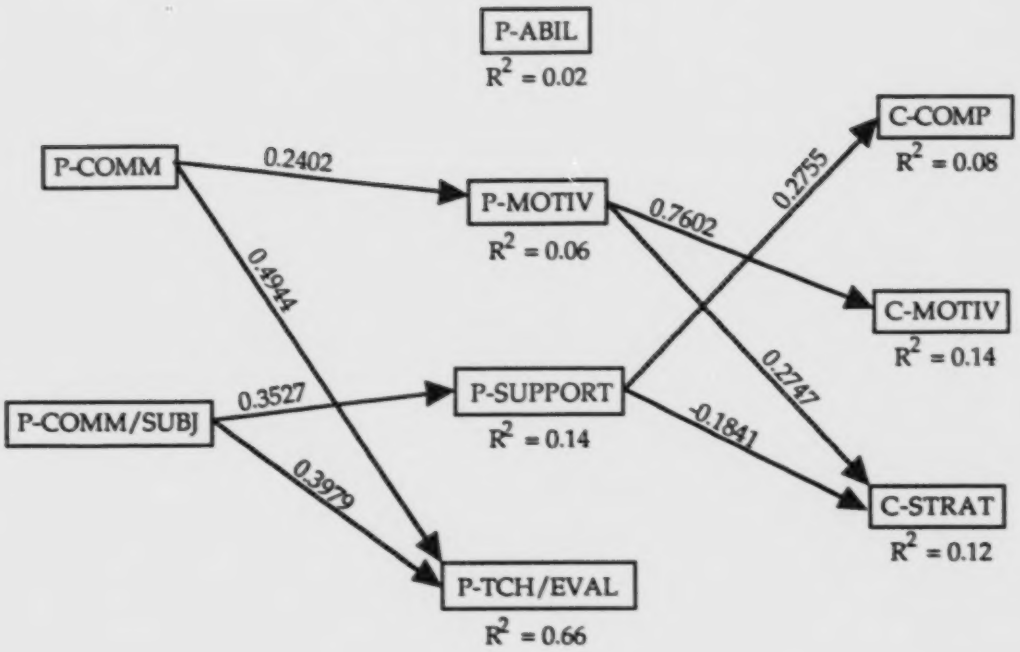

Figure 3. Estimated Path Model for LD Children (N = 119)

R^2 in the figure represents the percent of variance of the criterion scale accounted for by its predictor scales.

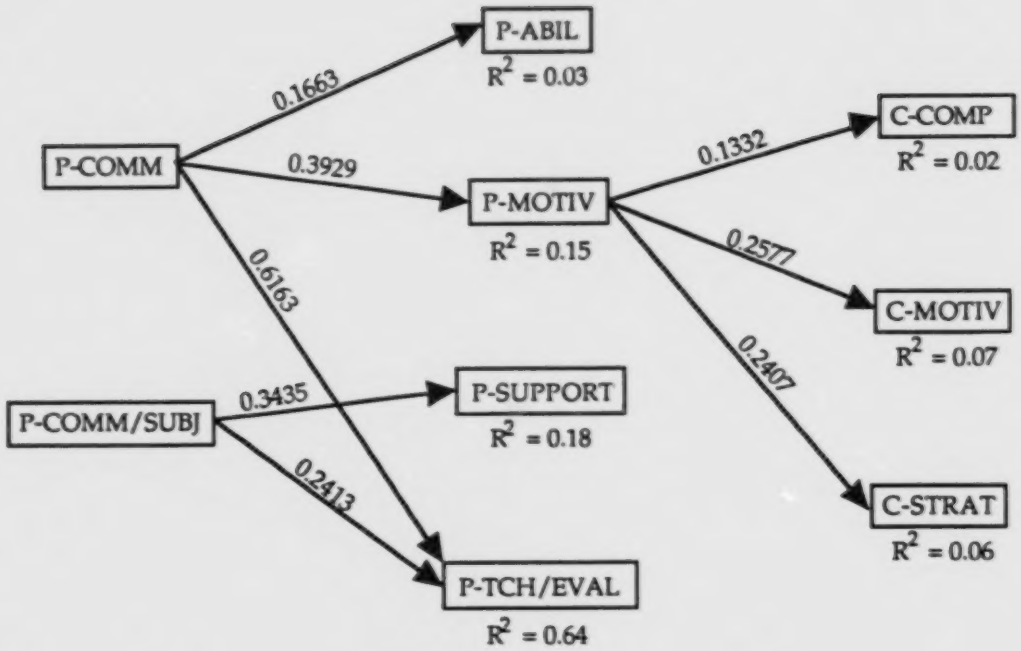

Figure 4. Estimated Path Model for At-Risk Children (N = 248)

R^2 in the figure represents the percent of variance of the criterion scale accounted for by its predictor scales.

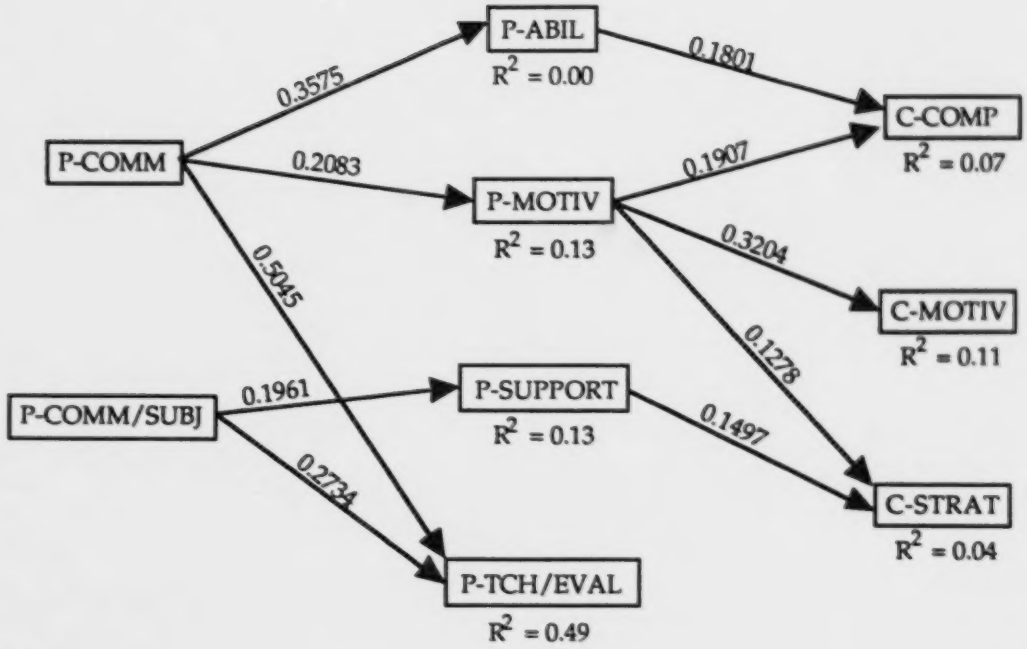

Figure 5. ESTIMATED PATH MODEL FOR RANDOMLY-SELECTED CHILDREN (N = 265)

R^2 in the figure represents the percent of variance of the criterion scale accounted for by its predictor scales.

YEAR 3: SCHOOL-HOME COMMUNICATION AND TARGET STUDY

Year 3: School-Home Communication and TARGET Study

The third year of the project involved a comparison between two components of the project, that heretofore have been examined separately, one involving the school-to-home communication intervention and the second involving the TARGET intervention in the classroom. There is now a considerable body of literature that links children's school performance to strong connections between the school and home (e.g. Epstein, 1986; Epstein & Dauber, 1991). Some (e.g., Coleman, 1987; Comer, 1986, 1988) have argued that an effective context for learning includes the school-home relationship as well as the quality of instruction in the classroom. For example, we have found that school-to-home communications are related to parents' evaluations of the teacher, perceptions of their child's motivation, and willingness to become involved with their child's learning. At the same time, the project findings from the first and second year suggest that teachers' use of the TARGET intervention in the classroom has a signficant impact on how some children perceive the climate of the classroom and their motivation to learn. These latter findings related to the TARGET intervention, however, have been primarily limited to at-risk children.

We have focused on teachers' use of school-to-home communications that provide information about classroom learning, information about children's accomplishments and progress, and information about how parents can help their child learn. These communications are viewed as having the potential of shaping the quality of parental involvement in children's learning. Inasmuch as parent involvement has been defined in numerous ways, we have taken a rather broad perspective on parent involvement. In other words, in addition to helping their child with learning activities, parents talk to their child about school, provide support, interpret evaluative information from the teacher, and convey their own attitudes about learning and their views of the child's ability and motivation. Parent involvement, therefore, can include a wide range of perceptions, attitudes, strategies, and behaviors that may impact how the child approaches and engages in learning.

To date, the literatures on parent involvement (or school-home connections) and on the instructional environment of the classroom have remained largely separate. As a consequence, we know little about how these two areas can mutually contribute to children's learning. At the same time, the project findings from the first and second year suggest that teachers' use of the TARGET intervention in the classroom has a signficant impact on how some children perceive the climate of the classroom and their motivation to learn. These latter findings related to the TARGET intervention, however, were generally found for those children who were nominated by their teacher as being at-risk.

Clearly, both the school-to-home communications and the TARGET interventions were directed toward impacting parents' perceptions and attitudes as well as children's motivation and other self-evaluations. The purpose of the third year of the project was to investigate the contribution of these separate interventions within the same design. This third year of the project, therefore, involved four groups including a Control group (no intervention), a Home or school-to-home communication group, a TARGET group, and a Home/TARGET group (teachers using both school-to-home communications and the TARGET intervention). It was of particular interest to examine the impact of the school-to-home communications and the TARGET strategies on parents' perceptions of the teacher and their child as well as on children's motivation processes.

Method

Teacher sample. The four-group design required a much larger sample size than the project in year 1 and year 2. Of the teachers who participated in year 2, 33 continued with the project and were assigned to the Home/TARGET (combined) group. In addition, 41 new teachers volunteered to participate and were randomly assigned to either the Home (n=22) or the TARGET (n=19) only groups. For the Control group, 30 teachers were identified from the same schools and agreed to have the students tested and parents

surveyed. For their participation, teachers in the intervention groups received a small honorarium.

Student sample. Three groups of students were identified within each classroom, including all those students who had been formally classified as LD by the school or district, three-five students who were nominated by the classroom teacher as being at-risk (using the same criteria as year 2), and five students who were randomly-selected from the remaining group in the classroom.

Procedures. The three treatment or intervention groups included a Home/TARGET group, Home group, and TARGET group. The Home/TARGET group included teachers who had been in the project at least one prior year, and this group implemented both the school-to-home communication and TARGET components. The Home group implemented only the school-to-home component, and the TARGET group implemented only the TARGET component. The control group of teachers received no instruction and did not meet during the course of the project.

The school-to-home communications focused on three areas which have been outlined and described earlier (see Table 17). In brief, these three areas included (1) providing parents with information about classroom learning activities, lessons, curriculum units (e.g., newsletters), (2) providing parents with information about their own child's accomplishments, progress, and improvement (e.g., work folders with comments, personal notes, phone calls, progress reports), and (3) providing parents with information about how to help their child learn at home (e.g., activities for parent and child to complete together, workshops demonstrating helping techniques, tips for parents). Teachers in the Home or the Home/TARGET group were instructed to communicate with parents at least once a week using one of the three areas. The communications were to be positive, instructionally-meaningful, and personally-relevant to the parents. Teachers participating in the TARGET or the Home/TARGET groups were instructed to use at least one of the TARGET areas each week although they were encouraged to use as many strategies and areas as possible. The procedures for conducting and monitoring the intervention remained the same as in year 2 of the project. Teachers

in the intervention groups met monthly in small groups (according to their group assignment) and kept weekly record-keeping forms that were collected at the end of each month.

Teacher measures. At the end of the spring semester, teachers responded to both structured and open-ended questionnaire.

Teachers were asked to rate the frequency on a five-point scale (5 = very often to 1 = not often) with which they used specific strategies for communicating with parents, including use of classroom newsletters, providing information about classroom activities, progress reports on children, ideas for helping children learn at home, notes on accomplishments and improvement, folders of children's classwork with comments, activities for parent and child to do together, and instructions on how to help chidren with subject matter areas. All teachers responded to this question.

All teachers were also asked to judge their effectiveness in working with children. Three items on this scale included, "If I try really hard, I can get through to the most difficult student. Some of my students are not going to make progress no matter what I do (reverse scoring). I feel I have a lot of ideas about how to get my students interested and involved in learning." The first two items are from a Teacher Efficacy Scale developed by Midgley, Feldlaufer, & Eccles (1988). Teachers responded on a five-point scale (5=strongly agree to 1=strongly disagree).

Teachers participating in the TARGET and the Home/TARGET groups were asked to rate the emphasis (5=much emphasis to 1=little emphasis) that they gave to each of the six TARGET areas in their class and to rate how effective (5=very effective to 1=not effective) they believed the strategies in each TARGET area were with LD and at-risk children. All items were rated on a five-point scale and two scales were formed representing teachers' use of the TARGET areas and perceived effectiveness of the TARGET areas.

A final end-of-year open-ended evaluation of the project components were obtained from all teachers participating in the three intervention groups.

Parent measures. Parents of all children were surveyed at the end of the spring semester to obtain their perceptions of the teacher's school-to-home communications, their evaluations of the teacher, and their perceptions of their child. Parents were asked to evaluate the quality of the teacher's communication practices across seven items, including, "This teacher really kept me informed about what my child was learning. This teacher gave me frequent reports about my child's progress. This teacher often told me about my child's strengths and positive qualities. This teacher made me feel like a partner in my child's learning. This teacher helped me understand her/his program. This teacher gave me many good ideas about how to help my child learn. This teacher often sent home notes, newsletters, and papers that really kept me informed about the classroom." These items were rated on a five-point scale (5=strongly agree to 1=strongly disagree) and were combined into a composite scale.

Parents were also asked to evaluate the teacher's effectiveness across five items, including, "This teacher offered a variety of activities that helped my child learn. This teacher helped my child become more independent and responsible. This teacher really got my child interested in learning. I really admire my child's teacher. This teacher really encouraged my child." These items were rated on a five-point scale (5=strongly agree to 1=strongly disagree) and were combined into a composite scale.

Parents' perceptions of their child's motivation was assessed across six items asking them to rate their child's attitudes toward reading, math, and science, whether their child "feels pretty good about schoolwork," "likes to try new things even if they are hard," and "likes to learn new things." These items were rated on a five-point scale (5=strongly agree to 1=strongly disagree) and were combined into a single scale.

Parents were asked to rate how often they talked to their child about school (5=a great deal to 1=very little), how often their child talked to them about school (5=a great deal to 1=very little), how much the teacher improved their child's motivation, self-confidence, and abilities over the course of the school year (5=a great deal to

1=very little), how much influence they believed they could have on their child's success (5=a great deal to 1=none), and how much time they or someone in the home spent working with the child on school-like activities (5=a great deal of time to 1=no time at all). These were treated as separate items.

Child measures. At the end of the spring semester, the same assessments as in year 2 were administered. These included measures of mastery climate, TARGET areas, learning strategies, intrinsic motivation, attitude toward school, self-concept of ability, and perceived competence.

Results

For most of the analyses, the data for parents and children were aggregated within each classification group (i.e., LD, at-risk, randomly-selected) to the classroom level. The class means for each group were then used as the unit of analysis, and the data for each group were analyzed separately. The number of classes included across the analyses varies as a function of a number of factors, some of which have been noted in prior years. The number of LD children ranged from 0-6 across classrooms, thus some classrooms were not represented in the analyses on LD children. The mobility of children during the year caused attrition within all the groups but especially within the at-risk group. For analyses involving parents, the variation in representation also reflects the return rate of parent questionnaires. For the analyses involving at-risk and randomly-selected children, only those classes were included in the separate analyses when there were at least three students in that classroom group.

The overall return rate for the parent survey was 84% for LD students, 82% for at-risk students, and 93% for the randomly-selected students. For the Home/TARGET group, the return rate was 85% for LD, 96% for at-risk, and 99% for the randomly-selected group. For the Home group, the return rate was 96% for LD, 76% for at-risk, and 94% for the randomly-selected group. The return rate for the TARGET group was 79% for LD, 81% for at-risk, and 88% for the randomly-selected group. Finally, for the Control group, the return

rate was 64% for LD, 57% for at-risk, and 72% for the randomly-selected group.

The analyses focused on four primary questions, including (1) How did teachers differ in their use of school-to-home communications and TARGET strategies across the groups? (2) How did the school-to-home communications and TARGET interventions influence parents' perceptions and attitudes? (3) How did the school-to-home communications and TARGET intervention strategies impact children's self-evaluations and motivation? (4) How were teachers' Home and TARGET strategies related to parents' perceptions and attitudes? (5) How were parents' perceptions and attitudes related to children's motivation?

How did the teachers differ in their use of school-to-home communications and the TARGET areas across the four groups?

Teachers in both the Home/TARGET and the Home intervention groups were expected to use school-to-home communications. To determine if they, in fact, used more communications than teachers in the other groups, a Group (Home/TARGET, Home, TARGET, and Control) x Grade ANOVA was used to compare teachers' use of school-to-home communications across the four groups. Table 30 shows the ANOVA summary and Table 31 shows the means and standard deviations across the four groups.

Insert Tables 30 & 31 about here

The findings showed that there were significant Treatment group differences for each measure (except on providing information about how to help your child learn). As expected, those teachers in the Home/TARGET and Home groups sent home more classroom newsletters, information about classroom activities, and activities for parent and child to do together than teachers in the TARGET and control groups (see Table 31). There were also significant differences between these groups on progress reports, notes on accomplishments and improvement, and folders of classwork. Overall, the teachers' self-reports suggest that the teachers who were supposed to be using

school-to-home communications (i.e., those in the Home/TARGET and Home groups) were doing so at a higher level than those who received no instructions in this area (i.e., those in the TARGET and Control groups). There were also significant Treatment differences on the efficacy measure. Teachers in the Home/TARGET group reported feeling more efficacious about their ability to make a difference in children's learning and motivation than teachers in the control group.

There were a number of Grade level main effects and these were consistent across each measure. Teachers in the lower grades reported sending home significantly more communications than teachers in the upper grades. This latter finding suggests that parental disengagement from school and involvement with their child's learning may be precipitated by the decline in communications from the teacher as their children reach the upper elementary grades. This decline in parent involvement has been noted repeatedly by researchers and practitioners, but these data suggest that teachers may, in fact, contribute to this trend. Supporting this interpretation are the earlier findings reported from year 2.

The second set of comparisons concern Treatment x Grade ANOVAs on teachers' use of the TARGET areas and their perceived effectiveness of the TARGET areas. It should be noted that the questions relating to the use and effectiveness of TARGET were only given to teachers in the Home/TARGET and TARGET groups since the teachers who were not using TARGET would not understand the questions. The ANOVA summary is presented in Table 32 and the means and standard deviations are presented in Table 33. The findings showed that teachers in the Home/TARGET group reported using the TARGET areas more often and saw them as significantly more effective than teachers in the TARGET group. Again it should be noted that teachers in the combined group had been in the project the previous year and perhaps they were more familiar with the TARGET areas and had had more time to incorporate the strategies into their teaching and felt more efficacious in their use of strategies. As shown in Table 34, teachers' sense of efficacy was very much

related to their reported use of the intervention components. Of course, it is unclear as to whether efficacy contributes to a greater implementation or participation in the intervention contributes to a greater sense of efficacy.

Insert Tables 32 - 34 about here

Based on teachers' self-report data, then, teachers in each of the intervention groups appeared to implement the relevant components of the intervention to a greater degree than did teachers in the control group. The data, however, also suggested that there was considerable variation within each of the groups as well as overlap across years in the level of reported use of school-to-home communications and the TARGET areas. Nevertheless, one of the primary questions of the project concerned whether teachers could and would implement the intervention. The "user-friendly" component and the feasibility of the intervention can be evaluated, in part, by whether teachers actually implement the intervention. Our findings show rather clearly that teachers were receptive to the school-to-home communication program and wanted to use it in their classrooms. The findings additionally suggest that the TARGET intervention may require additional time to "take hold." There are a wide range of strategies that teachers are asked to integrate into their daily routines, and for some teachers, these strategies require changes in their goals, objectives, and approach to instruction. At the same time, our informal experience with the teachers also tells us that strategies in some of the TARGET areas require rather basic changes in how they view teaching and learning.

How did parents' perceptions and attitudes differ as function of their child's classification status?

Similar to the analyses conducted the previous year, an ANOVA (Student Classification x Grade) was conducted on the parent measures using the individual parent as the unit of analysis. A summary of the ANOVA and means and standard deviations are presented in Tables 35 and 36, respectively. There were a number of significant grade level differences and the direction of these

findings was consistent showing that parents of children in the lower grades responding more positively than parents of children in the upper grades. More importantly, there were significant differences among parents of LD, at-risk, and the randomly-selected children. Parents of LD and at-risk children reportedly talk less to their child about school, believe their child talks less to them about school, believe they have less influence on their child's success in school (parents of LD only), and have less positive perceptions of their child's motivation to learn than parents of the randomly-selected children (see Table 36). However, parents of LD children like those of randomly-selected children evaluate the teacher's effectiveness more positively than parents of at-risk children. These findings suggest that there are important, and not unexpected, differences among these parent groups. Consistent with previous findings from year 2, parents of LD children believe they have less influence on their child's success and less positive perceptions of their child's motivation.

Insert Table 35 & 36 about here

How were parents' perceptions and attitudes affected by the different interventions?

For these analyses, the data related to the parents of LD, at-risk, and randomly-selected children were analyzed separately, and within each group, the data were aggregated to the class level. Treatment (Home/TARGET, Home, TARGET, & Control) x Grade ANOVAs were conducted on parent measures. Tables 37-39 present the ANOVA summaries, and Tables 40-42 present the means and standard deviations related to the LD, at-risk, and randomly-selected groups, respectively.

Insert Tables 37-42 about here

Across the three groups, where there were significant grade level differences, and the direction of these findings was consistent, parents of younger children were more positive or favorable than were parents of the older children. These grade level effects, however, were most apparent among those parents of at-risk children. It is quite likely that they become less positive and more discouraged as their children progress through school although our data are cross-sectional and can only suggest a decline.

There were no significant differences related to the treatment for the LD children. The two significant Treatment effects for the at-risk group revealed differences between the Home/TARGET group and the Control group. Parents in the Home/TARGET group reported receiving more communications from the teacher and believed the teacher improved their child's self-confidence to a greater degree than did parents in the control group (see Table 41).

A contrasting set of findings was found for the randomly-selected group (see Table 39). Parents of children in all three intervention groups reported receiving more school-to-home communications than did parents of children in the control group (see Table 42). Moreover they gave significantly higher scores to the teacher's effectiveness. Overall, the most striking difference occurred between parents in the Home/TARGET group and parents in the Control group. Differences favoring the Home/TARGET group parents were found on school-to-home communications received, the amount of time they reported talking to their child about school, their evaluation of the teacher, the degree to which the teacher improved their child's self-confidence and motivation, and their own sense of efficacy (perceived influence on their child's success).

The data related to the impact of the intervention on parents suggests that it is the parents of the randomly-selected children who are most impacted by the communications. Examination of the means across the groups on the communications received suggest that parents of LD children across all four groups were receiving

communications from the teacher. This was not the case for the parents of the at-risk and randomly-selected children. For these parents, those in the control group reported receiving fewer communications than did parents in the treatment groups.

It is also interesting to note that the TARGET group parents differed significantly from the control group on some measures even though they received no instructions about communications. Although the groups of teachers met separately, there were some occasions when teachers crossed groups to attend meetings because of scheduling problems. It is quite possible that there was some "spill over" across the groups particularly from the Home groups to the TARGET groups since the three types of communications, etc., were relatively easy to understand, and teachers often conveyed the positive benefits coming from these communications.

What was the impact of the interventions on children's self-evaluations and motivation?

For these analyses, the data were aggregated to the class level for each group (LD, at-risk, and randomly-selected). We first conducted Treatment x Grade ANOVAs on the spring assessment data for the LD, at-risk, and randomly-selected students separately and the summaries of these analyses are presented in Tables 43-45. As expected, there were significant grade level differences on most of the measures. The direction of these effects was consistent and showed that responses of children in the lower grades were more positive than those in the upper grades. There were no significant treatment effects for the LD or at-risk students and only two significant effects for the randomly-selected. In part, these findings reflect differences across the groups at the time of the fall assessment, and therefore, analyses examining change across time become important.

Insert Tables 43-45 about here

Repeated measures (Time x Grade) ANOVAs were therefore conducted within each of the three treatment and control groups separately. The means and F-values for the repeated (fall-to-spring)

factor are presented in Tables 46-51. These analyses were conducted on all the student measures, including self-evaluations and motivation, and perceptions of TARGET areas. Although grade level was expected to be a significant factor, we were more interested in determining the presence of interactions involving the Grade and Time factors. There were only two significant Grade x Time interactions and they are noted on Tables 48 and 50.

Insert Tables 46-51 about here

Within the LD group (see Tables 46 & 47), there were generally one or more significant declines on the self-evaluative and motivation measures within each group except the TARGET group where no declines in self-evaluation and motivation occurred from the fall to spring assessment. On the TARGET measures, the pattern was similar in that there were some significant declines in each group except the TARGET group.

The findings are even more striking for the at-risk group of students. There were significant declines on measures of learning strategies, intrinsic motivation, attitude toward school, and perceived competence within the control group (see Tables 48 & 49). In general, declines were not the preponderant pattern within the three treatment groups. In fact, there were no significant changes in self-evaluations and motivation in the Home/TARGET group. The pattern is similar, but less strong, when we look at changes in their perceptions of the TARGET areas over the course of the year. Students' perceptions of the Task, Grouping, and Evaluation areas declined significantly over the year in the control group. The declines that occurred within the TARGET group, however, were unexpected.

For the randomly-selected students (see Tables 50 & 51), there were some significant declines in self-evaluations and motivation within all groups. The negative change on learning strategies within the Control and Home groups is noteworthy since significant changes did not emerge with the groups using the TARGET strategies. Endorsement or use of effective learning strategies seems to be one

variable that is strongly related to implementation of the TARGET strategies. With regard to students' perceptions of the TARGET areas among the randomly-selected students, there were significant declines within all groups, however, students in the Control group showed increased negative perceptions of all the TARGET areas over the course of the school year. This was not the case in any of the treatment groups.

The results of these analyses support rather strongly the findings from the first year of the project for the at-risk students. Moreover, for the first time, the intervention seemed to have some positive consequences for the LD students. The findings related to the randomly-selected students were generally favorable with regard to the intervention.

What was the relationship between teachers' use of school-to-home communications and parents' perceptions and attitudes?

Teachers' use of school-to-home communications can be assessed from both the teacher's and parent's perspective. We have both teachers' reports of their use of communication strategies and parents' reports of how often communications were received. As a consequence, correlations were computed between teachers' reported use of school-to-home communications and parents perceptions and attitudes (see Table 52) and between parents' reports of communications received and their perceptions and attitudes (see Table 53). These correlations were calculated with the three treatment and control groups combined but for the LD, at-risk and randomly-selected groups separately. Data were aggregated to the class level when correlations were conducted between the teacher and parent variables (see Table 52). For correlations among the parent variables, the individual parent was used as the unit of analysis (see Table 53).

Insert Tables 52 & 53 about here

Teachers' reports of their use of school-to-home communications and parents' reports of receiving these communications were significantly related within the at-risk (r=.32) and the randomly-selected group (r=.41) but not within the LD group (see Table 52). There were also significant relationships between how often teachers reported communicating with parents and parents' evaluations of the teacher's performance within the randomly-selected group and at-risk group. Within the randomly-selected group in particular, the more often teachers reported communicating with parents, the more positive were parents' views of the teacher's performance, the progress their child made over the course of the year, and their child's motivation. Teachers' reports of their communication practices, however, were not related to how parents of LD children viewed the teacher or the child. The relationship between teacher reports and parent perceptions was also negligible for parents of at-risk children.

The pattern of relationships, however, is quite different when we look at teachers' communication practices from the parents' perspective (see Table 53). Among parents of LD children, their evaluations of their teacher's performance and perceptions of their child's progress and motivation were strongly related to how well they believed the teacher communicated with them. Within the at-risk and randomly-selected groups, parents' perceptions of the teacher's communciation practices were related to how often they reported talking to their child about school, their evaluations of the teacher's effectiveness, and perceptions of their child's progress, their influence on their child's success and their child's motivation.

These correlational findings revealed strong relationships between teacher's communication practices (from both the teacher's perceptions of their child especially among parents of the randomly-selected children. These findings show a strong "connectedness" between teachers and parents of randomly-selected children.

At the same time, there appears to be a lack of correspondence between what teachers say they do in communicating with parents of LD children and what parents of LD children report receiving. Whether the parents of LD children do not receive the communications or are less aware of them is unclear, but it is also likely that the lack of stability of means due to variable sample size across classes may contribute to this apparent lack of correspondence. However, there appeared to be less connectedness between the classroom teacher and parents of LD children. Again our annecdotal information suggests that the classroom teacher often defers to the special education teacher for responsibility for communicating with these parents.

The findings also suggest that teachers are not well "connected" to parents of at-risk children. When these parents reported receiving communications, there were strong relationships with how they perceived the teacher and their child. Of course, these are correlations, and the direction of causality is unclear. Based on the lack of significant findings on the treatment/intervention itself, it is likely that parents who have more positive views of their child are more attuned to communications and view the teacher more positively (i.e., rather than the other causal direction).

What is the relationship between parents' views of communications received and children's outcomes?

Correlations were computed between parents' reports of communications received from the teacher and children's self-evaluations and motivation. For these correlations, the data were aggregated to the class level within each group. These results are presented in Table 54. The findings show significant relationships between parents' reports of communications received and children's use of learning strategies (r =.32), intrinsic motivation r=.21), and attitude toward school r=.22) within the randomly-selected group. However, no relationships approaching significance were found within the LD or at-risk groups.

Insert Table 54 about here

How user-friendly are the project materials and how do teachers evaluate the project?

The open-ended survey of teachers which has been summarized in Appendix D provides information about the content and procedures of the project. Teachers' evaluations of the content were quite positive and suggest no changes in the instructions or materials. The intervention, both the school-to-home communication component and the TARGET component, appear to be "user-friendly" and perceived as valuable and effective by teachers who have participated. Their feedback also suggests that an important component of the intervention procedures was the contact with other teachers. The meetings with teachers provided them with the opportunity to reflect on their own practices, exchange ideas with other teachers, and receive suggestions about how to apply new ideas. The collaborative component of the project was instrumental in building a sense of involvement and ownership among the teachers. Such a collaborative model is likely to be very important in sustaining interventions and reforms in schools and classrooms over time. Since this was a field study, there was necessarily some variation or flexibility in the actual implementation of the intervention. There was not a set of specific rules that teachers had to follow nor a specific set of materials that teachers had to use, teachers were given principles, strategies, and a wide range of practices and ideas for implementing the strategies and principles. In the end, some were implemented more often and better than others. Thus, it is only over time and through a multi-year collaborative effort that long-term change can be evaluated. Nevertheless, important factors for evaluation are whether teachers will implement the intervention, whether they find that they actually can implement the intervention, and whether they believe that it has benefitted them, their students, and their students' parents. The answer to these questions appears to be affirmative.

Table 30

Treatment x Grade ANOVA E Values for School-to-Home Communications
(Teacher Measures)

(Year 3)

Variable	Treatment	Grade	Treatment x Grade
Sent Classroom Newsletters	19.51***	10.71**	.40
Information About Classroom Activities and Instructional plans	9.70***	2.11	.57
Progress Reports	4.98**	.18	2.79*
Ideas to Help Child Learn	2.76*	5.88*	2.08
Notes on Accomplishments & Improvement	5.08**	2.41	2.16
Folders of Classwork with Comments	3.85*	4.57*	.21
Activities for Parent & Child	5.88***	12.90***	.73
Meeting to Show How to Help Child	.32	2.38	.29
Combined score (Communications)	11.03***	7.31**	.92
Sense of Efficacy	4.24**	1.72	2.05

*p<.05
**p<.01
***p<.001

Note: df = 1/90 for Grade effects

df = 3/90 for Treatment and Treatment x Grade effects

Table 31

Means and Standard Deviations by Treatment Group for School-to-Home Communications

(Year 3)

Variable	Home/TARGET (n = 32)	Home (n = 20)	TARGET (n = 19)	Control (n = 27)
Classroom Newsletters	3.81_b (.93)	4.16_b (.83)	2.05_a (1.05)	2.70_a (1.51)
Information About Classroom Activities and Instructional Plans	3.78_b (.87)	4.05_b (.71)	2.60_a (1.23)	3.07_a (1.17)
Progress Reports	3.97_b (.82)	4.11_c (.81)	4.05_c (.83)	3.41_a (.89)
Ideas to Help Child Learn	3.19 (.82)	3.53 (1.07)	2.95 (.89)	2.96 (1.02)
Notes on Accomplishments & Improvement	3.56_{ab} (.91)	3.95_b (.91)	3.10_a (.97)	3.11_a (.98)
Folders of Classwork with Comments	3.69_b (1.60)	3.16_{ab} (1.57)	2.55_a (1.47)	2.67_a (1.36)
Activities for Parent & Child	2.72_b (.96)	2.95_b (1.43)	1.85_a (1.09)	2.22_{ab} (1.01)
Meeting to Show How to Help Child	2.22 (1.13)	2.37 (1.30)	2.45 (1.10)	2.41 (1.12)
Combined Score (Communications)	31.16_b (5.03)	32.42_b (5.94)	25.70_a (4.22)	26.44_a (6.03)
Sense of Efficacy	11.88_b (2.21)	11.79_{ab} (1.87)	11.65_{ab} (1.90)	10.37_a (2.04)

Note: Means with different subscripts are significantly different at the $p<.05$ level using Tukey (HSD) post hoc comparisons.
Means based on data aggregated to class level.

Table 32

Treatment x Grade ANOVA F Values for TARGET Areas (Teacher Measures)

(Year 3)

Variable	Treatment	Grade	Treatment x Grade
Use of TARGET Areas			
TASK	7.70**	.80	.21
AUTHORITY	8.08**	1.26	.73
RECOGNITION	7.21**	3.48	.80
GROUPING	8.93**	.53	.53
EVALUATION	4.42*	.03	.74
TIME	5.93*	.33	.70
COMBINED	33.69***	.34	.03
Perceived Effectiveness of TARGET Areas			
TASK	4.02	1.22	.03
AUTHORITY	8.10**	.73	1.22
RECOGNITION	8.46**	8.11**	2.26
GROUPING	1.63	.09	1.88
EVALUATION	7.72**	1.49	.02
TIME	17.20***	.29	.07
COMBINED	20.20***	.03	.11

*p<.05
**p<.01
***p<.001

df = 1/48 for all effects

Table 33

Means and Standard Deviations by Treatment Group for TARGET Areas
(Teacher Measures)

(Year 3)

Variable	Home/TARGET (n = 32)	Home	TARGET (n = 19)	Control
Use of TARGET Areas				
TASK	4.38$_b$	n/a	3.60$_a$	n/a
	(.79)		(1.19)	
AUTHORITY	4.34$_b$		3.70$_a$	
	(.75)		(.92)	
RECOGNITION	4.34$_b$		3.85$_a$	
	(.70)		(.67)	
GROUPING	4.56$_b$		3.80$_a$	
	(.76)		(1.01)	
EVALUATION	3.88$_b$		3.35$_a$	
	(.87)		(.81)	
TIME	3.50$_b$		2.85$_a$	
	(.98)		(.81)	
COMBINED	25.00$_b$		21.15$_a$	
	(2.02)		(2.68)	
Perceived Effectiveness of TARGET Areas				
TASK	4.16	n/a	3.65	n/a
	(.81)		(.93)	
AUTHORITY	4.28$_b$		3.60$_a$	
	(.81)		(.94)	
RECOGNITION	4.50$_b$		4.00$_a$	
	(.67)		(.73)	
GROUPING	4.50		4.20	
	(.72)		(.89)	
EVALUATION	3.84$_b$		3.20$_a$	
	(.81)		(.77)	
TIME	3.84$_b$		2.90$_a$	
	(.77)		(.79)	
COMBINED	25.13$_b$		21.55$_a$	
	(3.08)		(2.06)	

Note: Means with different subscripts are significantly different at the $p<.05$ level.
N/A = Teachers in these groups did not respond to these questions.

Table 34

Correlations Among Teacher Variables

(Year 3)

	(1)	(2)	(3)	(4)
1. School-to-Home Communication	–			
2. Efficacy	.36***	–		
3. Use of TARGET Areas	.59***	.38**	–	
4. Perceived Effectiveness of TARGET	.54***	.36**	.63***	–

**p<.01
***p<.001

n = 98 (n = 52 when TARGET variables involved since the Home Group and Control Group were not asked questions about TARGET use).

Table 35

ANOVA Summary for Parents' Perceptions and Attitudes Across Student Classification Groups

(Year 3)

Variable	Student Classification	Grade	Classification x Grade
Received Communication	2.91	13.69***	.72
Talk to Child About School	3.52*	3.65	.02
Child Talks About School	9.75***	2.58	.05
Evaluation of Teachers' Effectiveness	10.28***	4.80*	1.16
Teacher Improved Child's self-confidence	6.76***	3.28	1.22
Teacher Improved Child's Motivation	8.89***	3.72	3.20*
Teacher Improved Child's Abilities	10.54***	6.07*	2.40
Perceived Influence of Child's Success	8.31***	3.69	7.04***
Perception of Child's Motivation	56.50***	14.30***	4.51*

*p<.05
**p<.01
***p<.001

df = 1/900 for grade effects

df = 2/900 for student classification and classification x grade effects

Table 36

Means and Standard Deviations for Parents' Perceptions and Attitudes by Students' Classification

(Year 3)

Variable	Classification Group		
	LD (n = 165)	At-Risk (n = 330)	Randomly-Selected (n = 411)
Communications Received	27.53 (6.83)	26.08 (7.35)	26.92 (6.94)
Talks to Child About School	4.28_a (.87)	4.28_a (.83)	4.42_b (.72)
Child Talks About School	3.81_a (1.07)	3.79_a (1.10)	4.10_b (.93)
Evaluation of Teachers' Effectiveness	20.12_b (4.68)	18.94_a (5.17)	20.56_b (4.64)
Teacher Improved Child's Self-Confidence	3.89_{ab} (.98)	3.70_a (1.12)	3.97_b (.97)
Teacher Improved Child's Motivation	3.96_b (1.03)	3.65_a (1.14)	3.95_b (1.02)
Teacher Improved Child's Ability	3.98_b (.97)	3.73_a (1.02)	4.04_b (.87)
Perceived Influence on Child's Success	4.19_a (.92)	4.33_{ab} (.78)	4.46_b (.69)
Perception of Child's Motivation	21.00_a (4.70)	21.24_a (4.92)	24.46_b (4.49)

Note: Means with different subscripts are significantly different at the $p<.05$ level or beyond.

Table 37

Treatment x Grade ANOVAs for Parents of LD Children

(Year 3)

Variable	Treatment (df=3,72)	Grade (df=1,72)	Treatment x Grade (df=3,72)
Communications Received	.28	.04	1.76
Talks to Child About School	.21	.11	2.17
Child Talks About School	.23	.04	.75
Evaluation of Teacher Effectiveness	.09	.47	2.44
Teacher Improved Child's Motivation	.18	.27	1.45
Teacher Improved Child's Self-Confidence	.68	.17	.66
Teacher Improved Child's Abilities	.08	.22	1.31
Perceived Influence on Child's Success	.70	.67	.04
Time Spent Helping Child Learn	.74	.01	.42
Perception of Child's Motivation	.63	1.23	5.52**

**p<.01

Table 38

Treatment x Grade ANOVAs for Parents of At-Risk Children

(Year 3)

Variable	Treatment (df=3,95)	Grade (df=1,95)	Treatment x Grade (df=3,95)
Communications Received	2.97*	4.57	.69
Talks to Child About School	.53	2.03	.68
Child Talks About School	.79	.80	.08
Evaluation of Teacher Effectiveness	1.77	1.55	.96
Teacher Improved Child's Motivation	1.97	2.47	.82
Teacher Improved Child's Self-Confidence	2.89*	4.88*	2.28
Teacher Improved Child's Abilities	2.02	4.26*	.48
Perceived Influence on Child's Success	.79	15.86***	.94
Time Spent Helping Child Learn	2.05	2.40	.07
Perception of Child's Motivation	1.22	11.62**	.95

*p<.05
**p<.01
***p<.001

Table 39

Treatment x Grade ANOVAs for Parents of Randomly-Selected Students

(Year 3)

Variable	Treatment (df= 3,96)	Grade (df= 1,96)	Treatment x Grade (df= 3,96)
Communications Received	13.74***	19.30***	1.72
Talks to Child About School	2.75*	4.18*	1.10
Child Talks About School	1.10	4.05*	1.90
Evaluation of Teacher Effectiveness	7.29***	7.65**	.81
Teacher Improved Child's Motivation	5.02**	3.39	1.00
Teacher Improved Child's Self-Confidence	4.79**	1.76	.43
Teacher Improved Child's Abilities	3.82*	5.06*	1.14
Perceived Influence on Child's Success	4.25**	2.51	4.36**
Time Spent Helping Child Learn	1.64	1.14	1.94
Perception of Child's Motivation	.05	11.12**	1.03

*p<.05
**p<.01
***p<.001

Table 40

Means and Standard Deviations for Parents of LD Children

(Year 3)

Variable	Treatment Group			
	Home/TARGET (n=25)	Home (n=21)	TARGET (n=16)	Control (n=18)
Communications Received	27.60 (4.26)	27.10 (5.43)	26.91 (4.94)	27.34 (4.91)
Talks to Child About School	4.22 (.68)	4.33 (.59)	4.15 (.72)	4.31 (.59)
Child Talks About School	3.80 (.81)	3.80 (.63)	3.64 (1.18)	3.85 (.96)
Evaluation of Teacher Effectiveness	20.01 (3.45)	19.92 (3.52)	20.09 (4.55)	20.12 (4.20)
Teacher Improved Child's Motivation	3.80 (.66)	3.98 (.76)	3.94 (.88)	3.94 (.94)
Teacher Improved Child's Self-Confidence	3.75 (.70)	4.06 (.94)	4.05 (.79)	4.06 (.85)
Teacher Improved Child's Abilities	3.91 (.63)	4.00 (.75)	4.10 (.78)	3.99 (.85)
Perceived Influence on Child's Success	4.17 (.72)	4.11 (.96)	4.12 (.78)	4.43 (.65)
Time Spent Helping Child Learn	3.85 (.60)	3.82 (.54)	3.69 (.73)	4.02 (.62)
Perception of Child's Motivation	20.30 (3.34)	21.49 (3.66)	20.67 (5.24)	21.04 (4.62)

Note: Standard deviations are in parentheses.

Table 41

Means and Standard Deviations for Parents of At-Risk Children

(Year 3)

Variable	Treatment Group: Home/TARGET (n=32)	Home (n=22)	TARGET (n=19)	Control (n=30)
Communications Received	27.33_b (4.70)	26.40_{ab} (4.15)	26.42_{ab} (5.14)	23.99_a (4.46)
Talks to Child About School	4.37 (.41)	4.30 (.61)	4.16 (.51)	4.30 (.72)
Child Talks About School	3.79 (.74)	3.71 (.51)	4.01 (.55)	3.86 (.77)
Evaluation of Teacher Effectiveness	20.05 (2.74)	18.90 (2.88)	18.87 (4.08)	17.98 (3.82)
Teacher Improved Child's Motivation	3.84 (.67)	3.66 (.76)	3.84 (.73)	3.45 (.68)
Teacher Improved Child's Self-Confidence	3.81_b (.68)	3.73_{ab} (.81)	3.69_{ab} (.77)	3.29_a (.71)
Teacher Improved Child's Abilities	3.89 (.58)	3.83 (.72)	3.72 (.74)	3.48 (.69)
Perceived Influence on Child's Success	4.40 (.45)	4.43 (.51)	4.19 (.60)	4.25 (.60)
Time Spent Helping Child Learn	3.58 (.44)	3.84 (.46)	3.59 (.53)	3.85 (.57)
Perception of Child's Motivation	22.23 (3.56)	21.41 (2.70)	20.43 (3.25)	20.77 (3.33)

Note: Means with different subscript are significantly different at $p<.05$ level. Standard deviations are in parentheses.

Table 42

Means and Standard Deviations for Parents of Randomly-Selected Children

(Year 3)

Variable	Treatment Group: Home/TARGET (n=33)	Home (n=22)	TARGET (n=20)	Control (n=29)
Communications Received	27.88_b (2.83)	27.71_b (4.05)	28.41_b (4.41)	23.08_a (4.82)
Talks to Child About School	4.53_b (.31)	4.44_{ab} (.38)	4.44_{ab} (.43)	4.29_a (.36)
Child Talks About School	4.14 (.33)	4.17 (.39)	4.14 (.52)	4.00 (.56)
Evaluation of Teacher Effectiveness	21.08_b (2.18)	21.42_b (2.26)	20.91_b (2.97)	18.34_a (3.81)
Teacher Improved Child's Motivation	4.02_b (.49)	4.15_b (.46)	4.07_b (.59)	3.60_a (.74)
Teacher Improved Child's Self-Confidence	4.01_b (.51)	4.16_b (.47)	3.99_{ab} (.62)	3.54_a (.82)
Teacher Improved Child's Abilities	4.06_{ab} (.47)	4.14_b (.45)	4.16_b (.49)	3.70_a (.81)
Perceived Influence on Child's Success	4.56_b (.33)	4.55_b (.30)	4.43_{ab} (.52)	4.27_a (.34)
Time Spent Helping Child Learn	3.65 (.42)	3.71 (.45)	3.82 (.53)	3.54 (.49)
Perception of Child's Motivation	24.31 (2.82)	24.70 (2.80)	23.95 (3.15)	24.25 (2.60)

Note: Means with different subscripts are significantly different at the $p<.05$ level. Standard deviations are in parentheses.

Table 43

Treatment x Grade ANOVA for LD Students

(Year 3)

Variable	Treatment (df=3,76)	Grade (df=1,76)	Treatment x Grade (df=3,76)
Mastery Climate	1.10	12.00***	.75
TASK	1.71	18.34***	1.72
AUTHORITY	1.67	7.34**	.43
RECOGNITION	1.71	15.52***	1.70
GROUPING	1.12	9.40***	.77
EVALUATION	.93	12.06***	.96
Learning Strategies	.62	11.25**	.65
Intrinsic Motivation	1.66	13.89***	.77
Attitude/School	.75	4.36*	.31
Perceived Competence	1.46	7.65**	1.48
Self-Concept of Ability	3.89*	1.74	.22

*p<.05
**p<.01
***p<.001

Table 44

Treatment x Grade ANOVA for At-Risk Students

(Year 3)

Variable	Treatment (df=3,97)	Grade (df=1,97)	Treatment x Grade (df=1,97)
Mastery Climate	.53	11.35**	.57
TASK	.77	25.49***	.57
AUTHORITY	.55	8.93**	.18
RECOGNITION	.62	28.34***	.55
GROUPING	.93	18.43***	.28
EVALUATION	.54	13.70***	.57
Learning Strategies	.24	34.76***	.55
Intrinsic Motivation	.72	18.80***	.44
Attitude/School	1.17	29.67***	1.32
Perceived Competence	.22	10.51**	.77
Self-Concept of Ability	.05	.46	.42

*p<.05
**p<.01
***p<.001

Table 45

Treatment x Grade ANOVA for Randomly-Selected Students

(Year 3)

Variable	Treatment (df=3,97)	Grade (df=1,97)	Treatment x Grade (df=3,97)
Mastery Climate	2.32	13.89***	1.44
TASK	.96	23.91***	2.28
AUTHORITY	1.02	20.83***	1.13
RECOGNITION	2.75*	25.40***	3.36*
GROUPING	.31	10.00***	2.48
EVALUATION	2.51	16.28***	2.26
Learning Strategies	3.38*	18.29***	.39
Intrinsic Motivation	2.63	20.17***	1.31
Attitude/School	.82	30.76	1.62
Perceived Competence	1.12	.34	.40
Self-Concept of Ability	1.93	4.36*	1.34

*p<.05
**p<.01
***p<.001

Table 46

Repeated Measures ANOVAs Within Treatment Group for LD Students:
Self Evaluations and Motivation

(Year 3)

Group and Variables	Fall	Spring	(Change)	F Value
Home/TARGET Group (n = 25)				
Learning Strategies	28.19	27.81	(-.38)	.47
Intrinsic Motivation	17.19	16.20	(-.99)	4.49*
Attitude/School	2.38	2.29	(-.09)	.51
Self-Concept Ability	17.73	15.47	(-2.26)	3.53
Perceived Competence	29.93	28.49	(-1.44)	5.04*
Home Group (n = 21)				
Learning Strategies	28.89	27.09	(-1.80)	15.32***
Intrinsic Motivation	18.23	17.42	(-.81)	4.05
Attitude/School	2.47	2.41	(-.06)	.02
Self-Concept Ability	21.31	18.73	(-2.58)	11.41**
Perceived Competence	31.71	29.49	(-2.22)	7.23*
TARGET Group (n = 15)				
Learning Strategies	27.88	27.04	(-.84)	1.49
Intrinsic Motivation	17.39	16.01	(-1.38)	2.67
Attitude/School	2.18	2.10	(-.08)	.55
Self-Concept Ability	18.21	16.66	(-1.55)	.74
Perceived Competence	30.42	31.06	(+.64)	.71
Control Group (n = 22)				
Learning Strategies	28.21	27.05	(-1.16)	1.94
Intrinsic Motivation	17.69	15.91	(-1.78)	10.40**
Attitude/School	2.38	2.23	(-.15)	.98
Self-Concept Ability	19.91	20.30	(+.39)	.07
Perceived Competence	30.67	29.80	(-.87)	2.12

*p<.05
**p<.01
***p<.001

TABLE 47

Repeated Measures ANOVAs Within Treatment Group for LD Students:
Perceptions of TARGET Areas

(Year 3)

Group and Area	Fall	Spring	(Change)	F Value
Home/TARGET Group (n = 25)				
TASK	19.98	18.76	(-1.22)	6.01*
AUTHORITY	15.85	15.40	(-.45)	1.93
RECOGNITION	16.53	15.68	(-.85)	3.37
GROUPING	20.38	20.36	(-.02)	.01
EVALUATION	22.60	22.58	(-.02)	.01
Home Group (n = 21)				
TASK	20.82	19.94	(-.88)	2.72
AUTHORITY	16.26	15.21	(-1.05)	9.89**
RECOGNITION	17.90	16.65	(-1.25)	9.10**
GROUPING	21.90	21.05	(-.85)	4.08
EVALUATION	23.23	22.73	(-.50)	.75
TARGET Group (n = 15)				
TASK	20.06	19.09	(-.97)	3.24
AUTHORITY	15.01	14.68	(-.33)	.49
RECOGNITION	16.93	16.03	(-.90)	2.23
GROUPING	20.72	20.49	(-.33)	.13
EVALUATION	22.83	21.81	(-1.02)	1.74
Control Group (n = 22)				
TASK	20.09	18.73	(-1.36)	5.79*
AUTHORITY	15.37	14.31	(-1.06)	4.10
RECOGNITION	16.59	15.26	(-1.33)	5.09*
GROUPING	20.99	19.73	(-1.26)	4.27
EVALUATION	22.78	21.75	(-1.03)	4.70*

*p<.05
**p<.01

Table 48

Repeated Measures ANOVAs Within Treatment Groups for At-Risk Students: Self-Evaluations and Motivation

(Year 3)

Group and Variables	Fall	Spring	(Change)	F Value
Home/TARGET Group (n = 33)				
Learning Strategies	27.92	27.10	(-.82)	3.54
Intrinsic Motivation	16.99	16.39	(-.60)	2.01
Attitude/School	2.24	2.30	(+.06)	.42
Self-Concept Ability	20.03	19.39	(-.64)	1.01
Perceived Competence	30.26	29.25	(-1.01)	3.76
Home Group (n = 22)				
Learning Strategies	27.78	27.63	(-.15)	.08
Intrinsic Motivation	17.13	17.12	(-.01)	.01
Attitude/School	2.15	2.15	(0.00)	.02
Self-Concept of Ability	20.26	19.26	(-1.00)	.40
Perceived Competence	30.69	29.50	(-1.19)	5.17*
TARGET Group (n = 19)				
Learning Strategies	27.96	26.65	(-1.31)	2.59
Intrinsic Motivation	17.23	16.80	(-.43)	1.08[a]
Attitude/School	2.47	2.17	(-.30)	8.57**
Self-Concept of Ability	18.99	19.14	(+.15)	.00
Perceived Competence	29.96	29.35	(-.61)	1.59
Control Group (n = 30)				
Learning Strategies	27.82	26.75	(-.07)	4.52*
Intrinsic Motivation	17.62	16.45	(1.17)	9.61**
Attitude/School	2.33	2.14	(-.19)	4.23*
Self-Concept of Ability	20.18	19.19	(-.99)	2.33
Perceived Competence	30.97	29.65	(-1.32)	9.07**

*p<.05
**p<.01

[a]Grade x Time interaction showed significant decline within the upper grades.

TABLE 49

Repeated Measures ANOVAs Within Treatment Group for At-Risk Students:
Perception of TARGET Areas

(Year 3)

Group and Area	Fall	Spring	(Change)	F Value
Home/TARGET Group (n = 33)				
TASK	20.05	19.25	(-.80)	6.06*
AUTHORITY	15.42	15.37	(-.05)	.01
RECOGNITION	16.36	15.73	(-.63)	2.86
GROUPING	20.98	20.78	(-.20)	.33
EVALUATION	22.57	22.29	(-.28)	.56
Home Group (n = 22)				
TASK	19.88	19.74	(-.14)	.09
AUTHORITY	15.41	14.87	(-.54)	3.33
RECOGNITION	16.36	15.81	(-.55)	1.96
GROUPING	21.44	20.93	(-.51)	1.74
EVALUATION	22.46	22.32	(-.14)	.08
TARGET Group (n = 19)				
TASK	20.50	19.83	(-.67)	3.89
AUTHORITY	15.58	14.88	(-.70)	6.55*
RECOGNITION	16.84	16.20	(-.64)	2.21
GROUPING	20.62	20.61	(-.01)	.00
EVALUATION	23.38	22.59	(-.79)	6.53*
Control Group (n = 30)				
TASK	20.16	19.40	(-.76)	5.79*
AUTHORITY	15.53	15.16	(-.37)	1.28
RECOGNITION	16.62	15.77	(-.85)	3.69
GROUPING	21.17	20.02	(-1.15)	16.75***
EVALUATION	22.80	21.95	(-.85)	4.26*

*p<.05
**p<.01
***p<.001

Table 50

Repeated Measures ANOVA Within Treatment Group for Randomly-Selected Students: Self Evaluations and Motivation

(Year 3)

Group and Variables	Fall	Spring	(Change)	F Value
Home/TARGET Group (n = 33)				
Learning Strategies	28.90	28.25	(-.65)	2.79
Intrinsic Motivation	17.42	16.76	(-.66)	5.99*
Attitude/School	2.48	2.36	(-.12)	3.61
Self-Concept Ability	20.97	21.22	(+.25)	.55
Perceived Competence	31.46	31.03	(-.43)	1.75[a]
Home Group (n = 22)				
Learning Strategies	29.05	27.87	(-1.18)	6.42*
Intrinsic Motivation	17.60	16.92	(-.68)	7.55*
Attitude/School	2.40	2.28	(-.12)	3.62
Self-Concept Ability	21.38	20.67	(+.29)	2.04
Perceived Competence	31.60	30.82	(+.22)	3.27
TARGET Group (n = 19)				
Learning Strategies	29.01	28.76	(-.35)	.22
Intrinsic Motivation	17.40	17.82	(+.42)	2.00
Attitude/School	2.48	2.36	(-.12)	1.27
Self-Concept Ability	20.73	22.01	(+1.28)	4.52*
Perceived Competence	30.51	31.81	(+1.30)	7.53*
Control Group (n = 30)				
Learning Strategies	28.93	27.27	(-.66)	17.13***
Intrinsic Motivation	17.97	17.18	(-.79)	7.11*
Attitude/School	2.44	2.34	(-.10)	1.62
Self-Concept Ability	21.03	21.34	(+.31)	.42
Perceived competence	31.48	31.03	(-.45)	1.54

*p<.05
**p<.01
***p<.001

[a]Grade x Time interaction showed significant decline within the lower grade level.

Table 51

Repeated Measures ANOVA Within Treatment Group for Randomly-Selected Students: Perceptions of TARGET Areas

(Year 3)

Group and Area	Fall	Spring	(Change)	F Value
Home/TARGET Group (n = 33)				
TASK	20.34	19.30	(-1.04)	30.72***
AUTHORITY	15.91	15.49	(-.42)	3.96
RECOGNITION	16.76	16.12	(-.64)	9.22**
GROUPING	21.15	20.52	(-.63)	7.74**
EVALUATION	23.15	22.64	(-.51)	3.45
Home Group (n = 22)				
TASK	20.68	19.56	(-.92)	14.34**
AUTHORITY	15.66	15.16	(-.50)	2.77
RECOGNITION	17.23	16.47	(-.76)	6.76*
GROUPING	21.05	20.44	(-.61)	3.25
EVALUATION	23.07	22.69	(-.38)	1.52
TARGET Group (n = 19)				
TASK	20.70	19.79	(-.91)	7.27*
AUTHORITY	16.07	15.20	(-.87)	5.37*
RECOGNITION	17.10	16.64	(-.46)	1.73
GROUPING	20.40	20.28	(-.12)	.49
EVALUATION	23.46	23.13	(-.33)	.74
Control Group (n = 30)				
TASK	20.10	19.28	(-.82)	9.66**
AUTHORITY	15.78	15.15	(-.63)	6.70*
RECOGNITION	16.76	15.59	(-1.17)	14.55***
GROUPING	20.89	20.21	(-.68)	5.36*
EVALUATION	22.78	22.06	(-.72)	6.25*

*p<.05
**p<.01
***p<.001

Table 52

Correlations Between Teachers' Reported Use of School-to-Home Communications (Combined Score) and Parent Perceptions and Attitudes Within Each Classification Group

(Year 3)

Variable	Classification Group		
	LD (n=76)	At-Risk (n=96)	Randomly-Selected (n=97)
Communications Received	.18	.32**	.41***
Talk to Child About School	-.01	.03	.08
Evaluation of Teacher's Effectiveness	.09	.22*	.34***
Teacher Improved Child's Motivation	.00	.19	.38***
Teacher Improved Child's Self-Confidence	.02	.19	.31**
Teacher Improved Child's Abilities	.07	.15	.36***
Perceived Influence on Child's Success	-.07	.06	.19
Involvement in Helping Child Learn	.10	-.15	.10
Perception of Child's Motivation	-.04	.08	.21*

*p<.05
**p<.01
***p<.001

Note: Data were aggregated to the class level within each group.

Table 53

Correlations Between Parents' Reports on School-to-Home Communications Received and Other Parent Variables

(Year 3)

Variable	Classification Group		
	LD (n=165)	At-Risk (n=331)	Randomly-Selected (n=410)
Talk to Child About School	.14	.16**	.21***
Evaluation of Teachers' Effectiveness	.79***	.78***	.79***
Teacher Improved Child's Motivation	.65***	.78***	.63***
Teacher Improved Child's Self-Confidence	.62***	.69***	.61***
Teacher Improved Child's Abilities	.68***	.70***	.62***
Perceived Influence on Child's Success	.14	.28***	.22***
Involvement in Helping Child Learn	.07	.09	.15**
Perception of Child's Motivation	.39***	.36***	.39***

*p<.05
**p<.01
***p<.001

Note: Individual parent was used as the unit of analysis.

Table 54

Correlations Between Parent Variables and Children's Motivation

(Year 3)

Child Variable	Classification Group: LD (n=80)	At-Risk (n=103)	Randomly-Selected (n=104)
Learning Strategies	-.04	.14	.32**
Intrinsic Motivation	-.02	.00	.21*
Attitude/School	.05	.12	.22*
Perceived Competence	-.08	-.02	.09
Self-Concept of Ability	-.08	-.11	.04

CONCLUSIONS

Conclusions

This project has evolved over a three year period and has studied the processes involved in implementing an intervention that has focused on the connections between school and home and children's learning experiences in the classroom. The cumulative findings of the project have provided valuable information about the content of the intervention, the procedures for implementing the intervention, and the effects of the intervention on teachers, parents, and children.

The Classroom-based TARGET intervention appeared to have the strongest effects on those children who had been identified as at-risk. The findings from both year 1 and year 3 of the project provide supporting evidence. In addition, there was some evidence of intervention effects on the LD children in year 3 of the project. These effects included students' perceptions of the classroom climate including the TARGET areas that we assessed and students' self-evaluations and motivation. Especially noteworthy were the consistently strong effects on students' reported use of learning strategies. It was noted from the record-keeping forms that teachers focused a great deal on strategies that would impact this motivation-related outcome. Students with learning difficulties often exhibit problems with organization, planning, consistent application of effort, and follow-through, and these are also the types of learning strategies that we assessed.

When we ask why the LD students were not more significantly impacted by the TARGET intervention, several points are worth noting. To begin with, although we did not find consistent evidence in the student measures, teachers' evaluations at the end of the year indicated that they believed these students benefitted. In addition, when compared to teachers in the control group, teachers participating in the intervention group in year 2 judged the LD and at-risk students as having made better progress in developing self-confidence and motivation. Changes in teachers' perceptions and expectations may be an important first step in effecting a change in students.

We also noted earlier in the paper, the wide variation in number of LD students across classes. As a consequence, not all the intervention (or control) classrooms were equally represented in the analyses since some classrooms had no LD students. At the same time, other classrooms had one-third of their students classified as LD and that ratio most assuredly placed an unreasonable burden on the ability of the teacher to implement the intervention strategies effectively with all these students. It is also worth noting that the LD students, although they were mainstreamed, spent one or more hours outside the regular classroom usually for instruction in reading and other major subject areas. At the elementary school level, these are the subject matter areas (i.e., reading and math) that are given the most time and attention by the teacher. Thus, the LD students may not have been in the classroom during critical periods when many intervention strategies may have been employed by the teacher.

The findings related to the school-to-home communication component of the project suggest a different pattern of influence for families of the LD, at-risk, and randomly-selected students. For parents of LD children, receiving communications from the teacher was positively related to their perceptions of their child's motivation and the amount of support they provided their child (see year 2). Nevertheless, the findings from year 2 and year 3 consistently suggest that the degree of "connectedness" between teacher and parent was strongest within the randomly-selected group. The connections between the regular classroom teacher and the parents of LD children may well be diffused by the role of the special education teacher.

Parents of LD children, when compared to parents of randomly-selected children, were found to have less positive perceptions of their child's motivation and believed they had less influence on their child's success in school. In light of the above findings, school-to-home communications to parents of LD children may be most effective if they focus on developing a better perception of their child as a learner. Communications of this nature fall within our second type which includes providing information to

parents that focuses on their child's strengths, improvement, and progress.

The project findings provided some interesting data on teachers' sense of efficacy. Although efficacy was not a major variable in the study, we found that teachers in the intervention group reported higher feelings of efficacy than teachers in the control group. Teacher efficacy has often been viewed as an antecedent variable, that is, a characteristic that predicts teacher effectiveness. Our findings suggest that the causal direction may be more reciprocal in that participation and involvement in the project may have given teachers a greater sense of efficacy. Certainly, involvement in many of the initiatives at the school district level are not likely to improve teachers' feelings of efficacy. This project, however, was a collaborative effort with teachers; and the opportunities to exchange ideas with other teachers, reflect on their own practice, and receive feedback about their ideas may be important components of involvement that enhance teachers' sense of efficacy.

It would be impossible to conclude without noting the mobility of students within a single school year as well as across years especially within the at-risk populations. Nevertheless, we were able to track some students and found that the benefit to students who had been in the project for two years was generally greater. Similarly, the findings from year 3 of the project showed that those teachers who had been in the project for two or more years were most effective although this finding is certainly confounded by the fact that these teachers were also implementing both components of the intervention. Relatedly, it also appears that the TARGET component is complex and may not demonstrate strong effects on students' self-evaluations and motivation until the teacher has had considerable time to integrate the strategies fully into day-to-day instructional activities. Implementing TARGET is not merely applying strategies, for many teachers, it requires modifying their beliefs about teaching and learning and their goals. This is a process that must unfold over time. At the same time, it is difficult to sustain an intervention over time and hold teachers' attention in the

midst of conflicting demands on their time and new requests from the school and district leadership. The findings from the second year of the project related to the TARGET component may reflect the large turnover of teachers from year 1 to year 2 in the intervention group, the need for more time to let the intervention "take," and the difficulty of sustaining the intervention over the course of the full year for both the experienced and new teachers.

Taken together, the findings from these three years related to the student measures provide important insights about the intervention and its implementation. During the first year of the project, teachers met frequently and the intervention was concentrated during one semester. In the second year, they had to implement the intervention over the course of the year. Also these teachers were implementing both the TARGET and the school-to-home communication (although in the second year these data were analyzed separately). In this third year, the teachers in the Home/TARGET group were experienced in the project and the separate Home and TARGET groups only had to implement one component. The TARGET component is a comprehensive intervention and many facets of the classroom are interwoven; as a consequence, teachers' efforts of the task area may be diminished if, for example, there aren't complementary strategies used in the authority or evaluation areas. Implementing the TARGET intervention successfully is necessarily a gradual process, probably much more so than implementing the school-to-home communications. The benefits of TARGET to the teachers, however, were apparent in their end-of-year evaluations of the project. This is especially important since teachers must be willing to implement the intervention and see the benefits themselves before they are likely to commit their effort to developing and sustaining the project over time. The impact of the intervention on children may depend on the teacher's experience with the TARGET strategies but it may also depend on the amount of time children spend in these classrooms (e.g., in the case of the LD children).

It is well to conclude with a strong recommendation for collaborative models of research. These models involve teachers in

the process from the beginning. They have input into the intervention within a framework and they contribute to defining its implementation. Interventions that are to have sustaining effects--that is, the continued involvement of teachers and impact on parents and children--must elicit the investment of teachers over time. This project has been very successful in translating a set of theoretical and conceptual principles into an intervention and actual classroom practice. The TARGET intervention needs continued study in classrooms with LD students, but teachers must first commit to integrating these students into all aspects of classroom life. In addition, attention needs to be focused on the number of LD students in the classroom and the amount of time these students are in the classroom for instruction in the "critical" areas. The importance of "mapping" the effects of school-to-home communications on parents' beliefs, perceptions, and attitudes is suggested by our findings. These maps will continue to inform us as to how the connections between school and home influence a wide range of family processes that have consequences for children's motivation and learning over the long term. Both the TARGET and school-to-home communication interventions are worthy of our continued study in field settings.

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APPENDIX A

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RUNNING HEAD: Students with Learning Disabilities

Abstract

Evidence in an ongoing experimental study suggests that implementing instructional strategies to enhance achievement motivation has the effect of increasing the importance of mastery orientation among groups of students in treatment classrooms. The finding that the effect varies more in the group of students with learning disabilities than in groups considered by teachers to be either at-risk or not at-risk for motivation suggests differences in their learning experiences. This qualitative study comprehensively examines six students randomly selected from the sample of those in the larger study to identify those differences. Data was collected on the learning experiences of students by conducting structured interviews with classroom teachers, and excerpts from interviews were used to develop case studies that highlight differences in those experiences. Several conclusions are drawn that have policy, practice, and research implications for those concerned about developing an adaptive motivattional pattern in the classrooms in which some students have learning disabilities.

Enhancing the Mastery Orientation of Students with Learning Disabilities: Situational and Individual Differences

In schools across the nation, students with learning disabilities are included in standard education programs. As a result, teachers are challenged to motivate those students in their classrooms. Despite evidence suggesting that teachers using particular instructional strategies can enhance the motivation of students with learning disabilities, the impact of those strategies on students varies. This qualitative study of six students with learning disabilities provides insights into the situational and individual differences that may account for that variance. The findings have implications for those concerned about developing an adaptive motivation pattern in the classrooms of students with learning disabilities.

Ames noted that an adaptive motivational pattern involves a range of cognitive, metacognitive, and affective processes that facilitate the initiation and maintenance of achievement activity and that contribute to long-term involvment in learning and a personal investment in learning activities (1990, p. 1). This pattern evolves when students adopt a mastery orientation goal, focusing on developing new skills, improving their own competence, or attaining a sense of mastery based on an internalized set of standards. Ames and her colleagues (Ames, 1990; Ames & Archer, 1988; Powell, 1990; Tracey, Ames, & Powell, 1990) have focused on how the value of a mastery goal is influenced by the salience of specific cues given in an achievement situation and the

interpretation of those cues by students.

In the first year of an ongoing experimental study that involves approximately 800 students, Ames found that an adaptive motivational pattern evolved in the classrooms of teachers implementing strategies believed to be conceptually consistent with the development of a mastery orientation toward learning (Epstein, 1988, 1989). Examples of those strategies are shown in Table 1. The responses of students with learning disabilities, as well as those of students considered by teachers to be either at-risk or not at-risk motivationally, on a measure of mastery orientation provide evidence that those strategies have the effect of increasing the importance of mastery orientation in treatment classrooms.

Insert Table 1 about here

Despite that effect, greater variance was found in the responses of students with learning disabilities. The variance in the scores suggests that teachers may give students with learning disabilities different cues in the achievement situation or that those students interpret cues differently. For that reason, this study comprehensively examines six of the students with learning disabilities to identify both situational and individual differences in their learning experiences. The resulting information can provide insights into understanding why instructional strategies that teachers implement to enhance achievement motivation have different effects on increasing the importance of mastery

orientation among students with learning disabilities.

The findings in this qualitative study have implications for several groups: policymakers concerned about the inclusion of students with mild handicapping conditions in standard education programs; educators and parents committed to developing an adaptive motivation pattern in classrooms that enhances the mastery orientation of students with learning disabilities; and researchers interested in investigating the qualitative aspects of the teaching and learning process.

Purpose of the Study

The purpose of this study was to identify situational and individual differences in the learning experiences of six students with learning disabilities. The following broad questions, each with several subquestions, were developed to guide the study. What do teachers know about the learning disabilities of students? How do students perform academically? What are their social interactions? Last, what is the home influence on the learning experiences of these students?

Methodology

The sample of six students was selected randomly from a larger sample of 148 students with learning disabilities in classrooms in which teachers implemented strategies conceptually consistent with developing the mastery orientation of students. The sample consists of one female and five male students in the second, third, and fourth grades of five different schools in three school districts. A 17-question structured schedule with open-ended items was

developed to obtain information from teachers in interviews conducted by trained personnel over the period of 1 week.

Results

The results of the study are highlighted in the following case studies of Jane and James in fourth grade, Jack and Steve in second grade, and Andy and Marcus in second grade. Excerpts from interviews with their teachers are used to address the four major research questions.

Question 1. What do teachers know about the learning disability of students?

In response to this question and related subquestions, teachers differed in their understanding of the learning disability, specifically how it impacts on students in the cognitive, affective, and behavioral learning domains. Those differences are illustrated in the following excerpts from interviews with teachers.

> Jane was classified learning disabled before she came to this class. I know strengths and weaknesses. She responds well to positive reinforcement and praise. As long as there is a great deal of motivation, her auditory skills are strengths. Her weakness is difficulty with written expression in language arts and math, as well as in social studies and science.

> I think Jim has been in special education the whole time. I'm not sure exactly all the things that they saw in the beginning, but he is bright. He simply fails to stay on task and do the work because he doesn't want to.
>
> Some of his problem is auditory processing, but he needs ritalin to improve his behavior. Without it, he cannot attend, but more important, he just does stupid things in the classroom. I don't know why he was labeled learning disabled rather than behavior disordered.

> I know that Jack's learning disability affects math and writing but not reading, even though his reading is marginal. I don't know the nature of it; he hasn't had his three-year review yet.
>
> I have no idea how Steve came to be classified learning disabled, but I think he was classified in first grade. He has difficulty with math, language, and reading and is working one year below grade level. I am unaware of the specifics of the disability.
>
> Because Andy came into second grade at a pre-reading level and because there was a large discrepancy in his ability and performance, I started the process of assessment right away. I subsequently learned that his father has a similiar problem. I know that he definitely has an auditory processing problem, which is related to problems of processing information. In addition, he has visual perception and attending problems. Andy seems to have visual memory problems and is easily distracted.
>
> Marcus came to my class previously classified. Whatever it [learning disability] is, I agree, but he was classified in another school in the district. His disability impacts on his reading skills.

Teachers also differ in their perceptions about the extent to which current educational programs meet the diverse needs of students relative to the amount of time they spend classrooms and the congruence in instructional strategies implemented in standard and special education classrooms. The following excerpts show those perceptions.

> Even though the LD teacher sees it differently, Jane often wants to do well. Although her homework is returned consistently this year, her study skills and work habits are weak. Jane also receives Chapter 1 services.
>
> For most of the day, Jane receives instruction here, even though she completes assignments with additional help in special education. She spends about an hour and fifteen minutes each day in

Chapter 1 two days per week. In terms of learning experiences, Jane needs recognition and practice, as well as a lot of support at home and school. She must be perceived as much more capable than she considers herself.

I would like to give her more individual attention than I do, even though she has made progress academically and in terms of self-concept. I think Jane receives adequate instruction in the special education classroom but needs more and better quality instruction than she receives. I think her work is done for her, and that is the change I would make in her program. The teaching strategies of the LD teacher are unlike mine.

With the exception of one hour in the morning, Jim is not out of my room. The special education teacher decided she wanted him to be in here for writing process, and he is coming up to pace. Mornings go smoothly, but it is a short morning. The special education teacher says she doesn't have problems there; she just has a few, so she doesn't mess with it. If he does something inappropriate, she is on him quicker than I am. They get back to the schedule and work, but she will be the first to tell you that he manipulates. In terms of learning experiences, Jim needs to accept the consequences of his behavior and be accoutable.

Some days, I think his current program meets his needs, and others, I don't. In math, I think it does. He must be given things verbally because he has problems writing answers on paper and getting thoughts across. I want him to have more individualized attention for tests. He has a hard time piecing together the tests. Special education students are penalized for their low reading level, which he has. He also has great difficulty with math.

In this class, Jack does the same assignments as everyone else. Sometimes when they have especially long assignments, and he is going to be out of the room part of the time when we work on them, I might excuse him or shorten the assignments. He is in the lower of two spelling groups and works at the third grade level. He is in the regular reading group that meets with my reading aide and is at the third grade level. He is in the regular math group. He finishes his math and practices writing with the LD teacher during the last fifteen minutes of the day. Special

education is different than this class. The LD teacher introduces math concepts to Jack, and I provide him with opportunities [individualized] to practice in here. All in all, Jack spends 45 minutes each day in special education.

In terms of learning experiences, Jack needs to work with concrete materials, such as blocks in learning fractions and decimals, as do other students. Jack also needs to have work monitored for errors, to be praised, and have specific directions. Specific directions for writing may include, "Think of three ideas of things to do in the spring" and then "write one paragraph" and so on. He needs to see the pattern for doing this, otherwise he will wait.

I think his individualized educational program is pretty good. The reading grant aide meets with special education students a half hour each day and helps Jack because he is not a good independent worker. Overall, I think the special education teacher and I use similiar approaches, especially with respect to rewards.

After attendance is taken and the lunch money accepted, Steve goes to special education until 10:45, has recess, and returns to special education. After lunch, he comes to the room while I read to the class and have science and social studies. Afterward, he goes to special education from 2-3:00. He also attends a special art class with three other students.

In my classroom, Steve participates in a cooperative group for science and social studies. He'd like to say, "I can't do this, " but group members make him participate. I modify some things for him. For example, if the activity requires a lot of writing, I write part of it, and he fills in the blanks or he may dictate and a group member writes. He's real capable of hanging in there; however, he will sit on the outside and not participate if he can get away with it. Although he got a D+ and C in science and social studies, he got a B one semester. He always volunteers and is anxious to read, even though it is difficult for him. He also responds to questions. I think he feels like an integral part of the class and that the class accepts him that way.

Considering Steve's learning needs, I don't feel qualified to judge whether the program meets his needs. The special education teacher has designed a program for him that includes having less written work, tests read to him orally, and

reduced number of choices on test items. He obviously has trouble both reading and writing. Overall, I think the program meets Steve's needs, and I have seen a big improvement since the beginningn of the year. The special education teacher and I use similiar strategies; in fact, we co-taught until she moved. Her aide took her place, and our styles are similiar too.

Andy is out of the room from 9:45-10:00 for reading and language arts, as well as from 12:20-12:45 for math. He also has speech and language twice a week for appoximately twenty minutes.

In my classroom, I try to provide an atmosphere in which Andy can be successful, but I adapt the program for him. I assigned him a partner, a girl who is not easily distracted. In the special education classroom, the teacher integrates language arts to include spelling and writing. She works with him on a first grade math program. Andy needs experiences that are not frustrating, structure, and help staying with tasks to completion. I often monitor and help him sequence activities. In the past, he was taught phonetically rather than by sight.

I think the program meets Andy's needs, and I think the special education teacher tries to tie in life's experiences. We have similiar philosophies, and I wish we could team teach.

Marcus is in my class for all except a half hour when he sees the special education teacher for reading and spelling. He goes for speech twenty minutes twice a week. In special education, the teacher works with him individually. I think he needs more oral experiences, hands-on activities, group work, and one-to-one practice. Marcus works less well by himself, especially in the absence of a teacher. I want more hands-on experiences in science and social studies, and I would like resource people to help in the classroom rather than pulling students out of class. Basically, the special education teacher and I use similiar strategies, particularly with respect to rewards and incentives.

Within the context of situational differences, students have other unique health and medically related problems, in addition to their learning disabilities, that may interfere with learning.

Those problems are identified in the following excerpts from interviews.

> I am aware of several factors affecting Jane, but I feel unable to share them.
>
> He is hyperactive and borders on behavior disorder. In the most recent staffing, how his behavior influences learning was brought up, but parents became very defensive. His behavior does interfere, but when he decides to do something, he does it. He has learned how to manipulate people, and because early on in kindergarten he would not do anything, he lacks skills now.
> When the fourth grade was on the Chicago trip, at about 4:30 in the afternoon, his mother came up to me and said, "Is there a water fountain around? I've got to get some pills into this sucker." Besides these problems, I know of no other disabilities.
>
> Jack has no other disabilities that I know of, exactly. He is very much overweight, and he does have problems that seem related to that. He comes to me and complains that his legs and ankles hurt. We do take walks every day, and he complains, even though he does play sports and is not too bad at them. He manages somehow. He also has allergies.
>
> Besides Steve's seeing the occupational therapist for coordination problems, I know of no other disabilities.
>
> Andy has had a severe hearing loss for quite a while, and recently, had tubes inserted in his ears.
>
> Although Marcus has a hearing loss in one ear, he uses a hearing aid.

Question 2. <u>How do students perform academically in both standard and special programs</u>?

Several differences in the performance of students with learning disabilities were identified in the responses of their teachers. In particular, students differ in their learning

strategies.

> Jane seems to plan how to do assignments after I show her, asks for help sometimes, does her work carefully when she uses study skills, usually pays attention, and hands in assignments on time.
>
> Jim seems to have few strategies for helping himself with assignments. I cannot imagine him planning assignments; he is not mature enough to do that. He will ask for help and pays attention when he is interested in the material presented. For example, he was very interested in reading about the far western states today. Although he has an assignment sheet, I never feel secure about his turning in assignments.
>
> With respect to Jack's own learning strategies, he uses planning to some extent. Today, he said, "I finished my corrections, did my math assignment, and put my folder on the table, so may I use the computer?" His planning has improved this year. Sometimes he will ask for help but is more likely to sit and wait. Jack pays attention fairly well to materials presented and usually hands assignments in on time.
>
> Steve plans his activities to some extent, asks for help, does his work carefully some of the time, really pays attention well when material is presented.
>
> In terms of his learning strategies, I am trying to teach Andy to plan and sequence his activities because he lacks self-discipline. He now asks for help rather than sitting and will do work carefully when he isn't distracted and understands the work. He has difficulty paying attention when material is presented except when he is interested.
>
> Marcus fails to plan beyond writing the assignment in the notebook, but he will ask for help, complete work carefully, and pay attention to material presented. He fails to complete assignments except in math, spelling, and rote English.

Students also differ in their self-confidence. As illustrated in the responses of teachers, the differences relate to worry about

school.

> Despite her [Jane] lack of self confidence, I think positive experiences this year helped improve it.
>
> At the beginning of the year, Jim wrote in his journal, "I don't know what to write. I don't know what we are doing." Now, he does write but spends a lot of time apologizing, such as "I'm sorry if the kids in my group don't like me." In years past, he came late to school, and he doesn't anymore. I think he worries about school or about being able to do the work, and that is why he is so threatened. I think it is a vicious circle in which he rationalizes why he can't do work, puts up a wall to protect himself, and then, doesn't try. Then, "I'm sorry, I'm sorry, and I'm sorry" in the journal.
>
> Although Jack has self-confidence, I think he may worry a bit about school because he is anxiouus about some things.
>
> ..generally, I think Steve feels good about himself, even though I think he worries a lot.
>
> Marcus's sense of confidence about what he can do is realistic. Although I think he worries about school, I think all kids worry about school.

Last, students differ in the contributions they make in groups relative to the composition and organization of the group. This is illustrated in the following teacher responses.

> In groups, Jane makes very few significant contributions, and if allowed, will let others carry the load.
>
> I also think Jim is learning in the groups and makes a significant contribution. Although he is the follower, group work has helped him this year. In the beginning, other group members were impatient with him, but now they are more patient; because they know they must pull together and work it out, they oversee him. The other members see that he has done what needs to be done for points, and as a result, he has improved his organizational skills.
>
> Jack works well with one other student, and

> because he is well-liked, he works cooperatively, particularly in science. In group activities, he contributes less [than others], even though he sticks with tasks and is likely to be chosen as a partner. Other students would never say, "Do we have to have him in our group?" I think he contributes a fair share.
>
> In groups, Steve models other students, and they don't let him off the hook. He certainly does the basics in cooperating with others.
>
> In groups, Andy gets frustrated easily, but smaller groups are better. Before he can contribute, he must understand directions.
>
> Depending on the organization of the group, Marcus may take an active role in the group.

Situationally, teachers differ in their concerns about the academic success of students and strategies they use to address the affective learning domain. Their concerns are illustrated in the following responses.

> Academically, Jane loves to express herself verbally, but to express herself in writing, she needs much help. My major concern is her being able to pay attention and focus.
>
> I am most concerned about Jack having structure in the future and special attention, as well as clear directions in getting started with a task.
>
> Steve needs a great deal of structure in his activities. My major concern is helping him feel like a part of the class because that will build his confidence, and with confidence, he will do better.
>
> I think Andy's skills have improved drastically. Although letter formation needs work, his handwriting is nice. He still needs to learn basic addtition and subtraction facts, is learning time and money, and must be reminded to finish work. The important thing is success. He will do as little as possible and once forged his mother's signature on a homework assignment. Actually, I think Andy would make a better first grader than second grader.

> Marcus uses time well and does work on time if he understands it. He also has good independent work habits and wants to do well. Although his intent is good, he fails to follow through on homework, so I give him none except in math. He is very immature in terms of organizational skills. My major concerns are his reading and organization. I want the resource person to come in and help him.

Teachers implement TARGET strategies, including task, authority, recognition, grouping, evaluation, and time stategies, in different combinations. Only Steve's teacher implements all five, apparently to address several of Steve's learning needs. The strategies teachers implement and how they meet the needs of students are illustrated in the following excerpts.

> Of the strategies I have implemented to enhance [the] motivation [of Jane], recognition and task are the most important, especially with respect to organizing work. None of the strategies is unimportant, and I found it easy to implement them with Jane, who responds favorably to them. The strategies have met her needs by improving her self-concept and self-image, as well as by helping her to "fit in," and organize assignments in a way that enables her to complete them on time.

> I have found grouping and reward [recognition] strategies to be most important, particularly rewards. The whole situation with the groups and three weeks to get the hundred points is important because they will do anything for points. The kids needle him about everything in groups. I'll never forget the first day he got his spelling words right. I passed back papers and said, "Jim, did you study for this?'
> He said, "Yeh."
> I said, "Are you sure?'
> He said, "Yeh, why?"
> I said, "Great, you got 100% right."
> He said, "I finally did something right." I think the strategies have helped meet his needs.. [without them], I don't know where we'd be. Grouping provides structure because we use a timer constantly. They know they have only so much time,

so they must be responsible.

> In terms of strategies I have tried, reward and grouping have been important, but the area of organization was less effective. Jack has been unsuccessful in returning his folder, which prevents me from sending nice comments home that I'm sure his grandmother would enjoy reading. Rewards and praise seem to be more effective than nagging him, which I think has been done in the past.
>
> The most important strategies I have used with Steve are task, authority, reward, grouping, evaluation, and time. Grouping and time have been especially beneficial to him because they provide structure, and he works real well when there is a reward of any kind. None of the strategies have been unimportant, and they are easy to implement with him. Grouping enhances his self-confidence and risk-taking, and goal-setting has helped him with organization.
>
> Recognition has been the most important strategy that I have implemented with Andy because he responds well to positive reinforcement. Time is also important, and the task strategy helps with organization.
>
> Task, recognition, and grouping have been most important in working with Marcus. Time has been least important. All strategies are easy to implement, and he responds well to them. He gets recognition from activities, such as 'Fantastic Person of the Week.'

Question 3. <u>What are the social interactions of the students</u>?

With the exception of Jim, who has no friends primarily because of his behavior, the students have positive nonacademic social interactions. Even so, teachers perceive that some students recognize that they differ from others in academic social interactions. The following teacher responses illustrate the recognition among students that they are academically different than others.

> For example, others may question why her [Jane's] spelling list is shorter. When this occurs, she tends to withdraw or says, "Shut up." I think Jane is conscious of being different in some way relative to her learning disability, even though she has never commented to me. She does tell peers that she gets extra help.
>
> Occasionally, high school students on the bus will make fun of Jack because of his weight. With respect to his learning disability, he sometimes hates to miss activities in the classroom, such as movies. However, the LD teacher loves Jack's group.
>
> Although kids could make fun of him [Steve] on the playground, I think I would know because he is so sensitive. I do think he is conscious of being different because I have heard him say in groups, "I can't do that," or "It's too hard for me." He sees though that members of the group have strengths and weaknesses.
>
> In some ways, he [Andy] is aware of his learning disability relative to reading. Specifically, he has no knowledge of the term "learning disability." I don't think it bothers him, and in fact, he watches the clock and goes [to special education] on his own.
>
> He [Marcus] is aware that he is not as smart as others, but even so, he never mentions his disability to me or his peers.

Question 4. <u>What is the home influence on the students</u>?

Across situations, teachers associate home influence with students receiving help from parents in completing homework. The help and support parents give students in completing homework is contingent largely on their expectations of children both at home and school.

> The influence at home is questionable. Although parents come to conferences and are interested in knowing how she [Jane] is doing, she needs a lot more support at home than she gets, specifically with homework. She needs quality time with her family. Her parents' lack of involvement affects Jane's motivation, and if what we are doing here is

reinforced at home, she would be even more successful.

The influence from the home seems negative. Although parents are concerned about Jim, his mother spoonfeeds him; his schoolwork is contingent on how much his mom spoonfeeds him at home each night.

Jack's grandmother is involved to the extent that she can be, given her education. His uncle, who is in high school, lives with them, and I think he is a positive influence. Jack may be a bit coddled, such as not being forced to do chores. Also, the grandmother takes care of his two younger siblings.

With respect to home influence, I've never met his [Steve's] father, but his mother is involved. She has been to several conferences, is aware of how he is doing academically and socially, has been willing to help, and is supportive in doing anything at home that she thinks needs to be done. I know she has another son in special education, realizes that these children have difficulties, and accepts it.

Andy's mother is very involved and wonderful. She is a reader and assumes responsibility for helping Andy with reading. She takes him to the library, and he reads every night. He has an older brother who also has problems in school. At Andy's staffing, both parents cried; however, mom can really see progress this year, and I think her expectations are more realistic now.

Marcus lives with his grandparents, but I have only seen them once. However, they do respond to anything I send them. They are happy as long as he is doing his best and behaving himself. He is well-cared-for, clean, and comes to school everyday. His parents are concerned about his learning problem because a sibling in the fourth grade is mentally educably handicapped. I think they could follow up more at home, particularly by reading to him, but I think they both work.

Summary of Findings

In summary, several situational and individual were identified in the learning experiences of the six students in this study.

Across situations, differences in teachers include: understanding of learning disabilities and their impact on specific domains of learning; perceptions about the extent to which current educational programs meet the needs of students relative to the time they spend in classrooms, especially congruence in instructional strategies of standard and special education teachers; concerns about the academic progress of students; and the combination of TARGET strategies implemented. Among students, individual differences include: other problems, in addition to their learning disabilities; learning strategies; self-confidence relative to worry about academic success; contributions in groups; academic social interactions; and home influence.

Conclusions

The findings in this qualitative study provide insights into understanding why instructional strategies implemented in classrooms to enhance achievement motivation have such different effects on increasing the importance of mastery orientation among students with learning disabilities. With those insights, several conclusions can be drawn about the correspondence between the cues teachers give students with learning disabilities to increase their sense of mastery and the way those students interpret the cues. That correspondence may differ for several reasons.

First, some teachers may lack needed knowledge about the impact of particular disabilities on students in specific areas to give cues that increase their sense of mastery. Second, particular combinations of standard and special education teachers may give

students inconsistent cues in instructional strategies. Third, some teachers may lack understanding about group dynamics to effectively give some students cues that increase mastery in cognitive and behavioral, as well as affective, domains of learning. Last, students may interpret cues teachers give in ways that reflect their preestablished sense of competence, which seems contingent to a degree on the extent to which parents have realistic expectations of them in school, as well as at home.

Discussion

The conclusions drawn in this study warrant some discussion. Developing an adaptive motivational pattern in classrooms in which some students have learning disabilities may be especially difficult in many educational systems. Although teachers know students are classified "learning disabled," they seem to know very little about what the classification means in terms of the learning process. Moreover, its meaning appears to be further mystified in perceptions of classroom teachers about being "unqualified" to know what students need and believing that special education teachers do know. Nonetheless, most students in this study spend the majority of the school day in the standard classroom, and thus, classroom teachers are challenged to address their achievement motivation.

Within that context, special education teachers might demystify the learning deficits of students by collaborating with classroom teachers to implement instructional strategies that most effectively increase the mastery and competence of students in particular areas. However, this will require a willingness on the

part of standard and special education teachers to decompartmentalize their roles and tasks. Specifically, both groups may need to acquire expertise in organizing groups in ways that reinforce the strengths rather than weaknesses of students in academic social interactions.

Despite collaboration between teachers, parents also need information about how particular learning disabilities impact on their children in both formal and informal learning settings. With that information, parents might develop realistic expectations of their children at home and implement motivational strategies that reinforce those implemented by teachers. In turn, students might be less inclined to develop negative self-perceptions about their mastery and competence in the classroom.

Implications

The conclusions drawn in this study have policy, practice, and research implications for those concerned about developing an adaptive motivational pattern in the standard education classrooms in which some students have learning disabilities. Those include:

1. Policy seems warranted that establishes the importance of inclusionary models of service delivery to eliminate fragmentation in the learning experiences of students with learning disabilities.

2. Several practices seem necessary to increase the sense of mastery among all students with learning disabilities, including assessment procedures that help teachers understand the impact of particular learning disabilities on student performance in the learning process; inservices that inform standard teachers and

parents about the possible cognitive, affective, and behavioral effects of particular learning disabilities on students in the learning process; and collaborations between parents and teachers, both standard and special education teachers, that enable them to implement the same motivational strategies at home and school.

3. Research investigations seem required that determine the long-term effects of particular motivational strategies on the mastery orientation of students with learning disabilities, as well as studies that examine the interactive effect of motivational strategies implemented by teachers at school and parents in the home on their mastery orientation.

Table 1

Examples of Task, Authority, Recognition, Grouping, Evaluation, and Time (TARGET) Instructional Strategies

TARGET Strategy	Examples
Task	Design tasks for novelty, variety, individual challenge, and active involvement
	Help students set realistic, short-term goals and develop organizational skills for task completion
Authority	Involve students in decision-making and leadership roles
	Help students develop self-management and self-monitoring skills
Recognition	Recognize individual progress and improvement
	Assure equal opportunities for rewards
Grouping	Use flexible, heterogeneous grouping
	Involve students in group learning
Evaluation	Give opportunities to improve
	Use criteria of individual progress improvement, and mastery
	Involve students in self-evlauation
	Make evaluation private and meaningful
Time	Adjust time or task requirements
	Help students organize and manage work

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APPENDIX B

HOME-SCHOOL COOPERATION

PROJECT EVALUATION

Survey of Teachers 1989

Question given to teachers:

A. Please give us your comments, suggestions about the project in general. Do you think your students have benefitted from your participation? Have you benefitted?

Responses from teacher participants:

1. I benefitted by being more aware of what target area I was working in when I did certain things in my room. Many things I've been doing for years without really thinking of why. The project also forced me to send more notes to parents. Maybe the students have benefitted, I'm not sure. The binder has been real helpful.

2. Yes, I have been much more conscientious of <u>when</u> I do things with changes in how I do things. Unawaringly, my students have probably benefitted. However, another year of my organization and knowing what to expect in the total picture will be of better help next year. I sometimes felt that I had to continually do new things, but felt that would be unproductive to put new reward, time, task, etc., on top of each other.

3. I have enjoyed hearing various ideas from fellow teachers. Both ideas for materials and methods for using them in an effective manner.

4. I really enjoyed the project. There were several strategies that were new to me and I enjoyed trying them and I think they benefitted the class.

5. I liked getting all the clever ideas in the various areas. The discipline reports have been a great help. The students have liked the various new ideas. Doing the forms was ok but maybe not necessary for the future, especially May.

6. I think both the students and I have benefitted from the participation. I liked the variety of suggestions available but I would like to see more that fit the intermediate student. I feel that more suggestions are needed for the intermediates.

7. Children really benefitted - helped me organize and plan ahead to a greater extent. Also some of the ideas have been excellent. I'd appreciate more ideas for 5th-6th age group as some of the ideas are a little too "young" for the students. I found that a lot of the material was a good "starting point" for other ideas. It really was great to share ideas.

8. Yes, yes, yes - we have all benefitted. Establishing teams and maintaining a point system was helpful in controlling behavior and in producing quality work. Here at the end of the year, I've returned to one behavior plan (in the building) and realize how wonderful the team plan was.

9. I thought the project was excellent. I enjoyed using all the different areas. The grouping and home areas seemed to benefit my class most. I tried to use more than one area a week, but often find this hard, mostly because of lack of time. I think my students did also benefit from the activities I used.

10. I look forward to "studying" the book. Next year will be easier because I can truly know what's in the book. There was an awful lot to process during a busy school year. Maybe new people who will be involved next year could have book to become familiar with during the summer. I've greatly enjoyed all the new ideas and new ways to think about old ideas.

11. I have enjoyed the project - I have benefitted from the home communications portions and have plenty of room for improvement. Would it be possible to have a workshop in co-operative learning? My class appears to be very happy, helpful to one another, and just delightful.

12. I enjoyed the project very much. I think my students and I have both benefitted from the project. The project really helped me be more consistent with projects in the classroom that helped my children gain a lot of self-esteem. I think they feel very good about themselves. I have learned lots of different ways to accomplish the same tasks. I thought I was a better teacher because of the project! The project was great!

13. The project was a hugh success not only with the students but with the teacher. Each child gained so much confidence and wanted to do co-operative learning in their other classes too. I felt filling out the evaluations each month helped me to think about the strategies and ways I could change them for the future.

14. I felt the project was very worthwhile. Both my students and I benefitted in my opinion. I think the project kept our focus on at risk children in our class and ways of helping them. Many of the ideas we shared were valuable.

15. I feel it is very important for teachers to get together and share ideas. Seeing and hearing things other teachers have tried make me interested in trying them too. I was confused about the parent-communication and tried to do something different in that area every week. It was too much! I was relieved when I realized my mistake.

16. I feel my students have benefitted from this experience by becoming more independent, self-reliant, and responsible for their own successes. Many of the activities that I implemented have been a part of my program previous to this project. Many of the activities that I implemented were new to my program. I found the new activities helpful, for the most part, in broadening my choices of alternate actions when dealing with the students and their parents. I would like to see fewer activities used in implementation but over a longer period of time. I found that the parents still were reluctant to be involved on a regular basis regardless of what techniques or strategies I tried.

17. Almost everything I did I would have done anyway. I plan on going through my folder and picking out some brand new ideas during the summer. Thank you for the spiral. It's always good when teachers share.

18. It made me aware and I feel my students benefitted from it. I used a lot of the ideas. I especially liked the first few meetings where we shared ideas.

19. I have enjoyed getting the abundant ideas for encouraging student motivation and goal setting. I feel this project has made me more aware of how large a role goal setting, positive feedback, and communications with parents can play in the success of student work. Many times I feel it has made the difference in a passing grade or excellent piece of written work as opposed to the simple "task completed" attitude complacency of students at risk. For over-achieving students it has furthered their positive self-awareness and even bettered study skills.

20. A lot of the things mentioned are already done in my classroom, so it's hard to say if they benefitted (I hope so!) I've benefitted because it keeps me thinking about all the important areas that need to be emphasized that aren't part of the "required" curriculum. I liked the parent/home communication - and would like to have different things to do besides a newsletter - I'm not much for phoning unless I have to - I like my evenings to myself, my husband, and my cats!

21. It would have been more beneficial to have the ideas over the summer, so that we could begin fresh in the fall. It was very beneficial, even the ideas that didn't work out were not harmful in any way.

22. The ideas were very helpful to me and to several students. As each student is different, different strategies worked for some and not others. I felt pushed to try different things each week. I think it would be better to change activities less often. Some of the strategies needed to be started at the beginning of the year.

23. We all have benefitted from the project. The daily, weekly, monthly projects kept me on task - it made me try new rewards and made me much closer to my parents this year. I really enjoyed trying new "things," especially cooperative learning.

24. All the suggested activities that I tried were well recieved by the children. I feel I've learned a lot this year. After teaching for twenty years, it gave me a boost. It's nice to try something new or try a new strategy.

25. My children and I have both benefitted from the project. The ideas have been beneficial to everyone.

26. Loved it! Last year I took an Urbana board credit course on "motivation." We were asked to list 10 ways that we encourage kids, 10 ways that we "reward" good behavior, quality work, etc. - also to list all of the ways and frequency with which we have contact (positive contact) with parents. I was horrified to find out how difficult the task was! I was actually supposed to be contacting parents regularly?!! Well, needless to say, I've learned A LOT and feel that my students have certainly reaped the benefits. Teaching's a lot more fun when the kids, uh, actually ENJOY learning. Thanks!

27. Through this project I thought more about the motivating activities I do and stressed those more. I have realized how important desire to learn and motivation are to learning. I have improved my skills in this area.

28. - Students benefitted because of the extra individual attention they received.
- For me this was the year I needed new ideas of how to handle certain problems and situations. This really gave me the opportunity to try out things I may not otherwise have tried.

29. I feel strongly that I have benefitted as a teacher through the trial and error sharing of ideas and materials. The things that have helped me as a teacher have in turn benefitted my students. Using new methods is fun for me and it "sparks" the children's enthusiasm about learning. Some of the most effective ideas were: Bowl of Fate, Student of the Week, Calendar Credit, marble jar, the use of coupons for rewards (I like the reward idea list), dragon dot page (color in a dot for each positive thing a student does), jigsaw for grouping, study hall, self-evaluation, (by color code system or balloon activity), and positive comments to each other (we called it secret pals), and the lottery. I would like to have more suggestions added in the area of cooperative learning.

30. Good project! Carole Ames and her staff have been so helpful and considerate to work with. The students and I both have benefitted from many of the ideas. It will be helpful to begin this program as soon as possible next year.

31. I'm very glad that I decided to participate in the program. I may have benefitted as much as the children. I certainly thought more about positive communication. The strategies are great. There are some things I really want to do, but I didn't have the time to set it up - so I'm really anxious to develop more this summer.

32. Yes, I think the students have benefitted from my participation. I have benefitted in that I made an effort to use a variety of strategies and tried to do them on a regular basis.

33. Whether they realize it or not, my students have benefitted. I have taught the same grade level for so many years that I need a nudge to try some new things. Having to report made me try things every week, and I found some strategies that I never would have tried. This has been one of the most well-planned and executed projects I have ever been involved in. You were very considerate in planning meetings.

34. Yes, I think the students have benefitted from the project. Yes, I have. New positive ideas to use in the different areas.

35. It was difficult for me to come up with something new each week - maybe every 2 weeks would have been better. I found myself looking for some easier things to do or looking for things I was already doing because I was so busy - I guess it helped me realize how many strategies I already use. I would like to use more next year when I have more time. Trying to look through the binder mid-year was difficult. It would have been easier to begin at the beginning of the year. I heard many ideas that I would have liked to have used if I had had the time.

36. The project has been very well organized and professionally run. Mailings are easy to read and expedient. I thought the poscards were great ways to communicate. Testing was nicely handled, too. Yes, I've benefitted. I'm using some ideas regularly that were new to me. I'm hooked, for example, on a monthly calendar in addition to newsletters. I think my students, too, benefitted - especially in task, reward and authority. Next year I need to look more into evaluation and reward. It was fascinating to see the project evolve and be successful. I've truly appreciated the way Carole listened to and respected our opinions. This was really neat! Did others (my face is red here!) have trouble remembering to get the grid in each month and recording on the master grid? If so, what would keep us "on task" better?

37. Both the students and I benefitted from the program. We were particularly fond of the reward category, the task category, and the authority strategies. The students loved the various strategies and also learned to work together better through the grouping activities.

38. It has been enjoyable and rewarding to work with many createive people. At times it has been difficult to keep up with the records, but it has been really worthwhile. I think that the procedure has been simple and easy to follow. I've just been under a big time crunch this semester. I really think that it's a worthwhile project.

APPENDIX C

Parent Questionnaire - Spring 1989

Parents were asked to respond to two open-ended questions:

1. "What information would you like to receive from your child's teacher and how often?"

2. "What is the best thing your child's teacher has done to keep you informed and to stay in touch with you?"

What follows is a summary and compilation of parents' comments. It is divided into two sections corresponding to the above two questions. Parents' responses to the questions related to several areas: direct teacher-parent contact, newsletters, progress reports, workfolders, parents helping children at home, and homework. The forms of teacher-to-parent communication that received the most positive comments from parents were direct contact, newsletters, and progress reports or personal notes. The vast majority of parents also indicated that they wanted more information about how to help their child at home. Parents often said that they wanted to help but didn't know how to do so or wanted more ideas and suggestions about how to help at home. Parents felt that more complete and up-to-date information about what the children were learning at school would be necessary before they feel comfortable and able to help at home.

Summary of How Parents Want to be Kept Informed

1. **Direct teacher-to-parent contact**

Conferences - Parents want conferences more often than twice a year. They want conferences more often, longer than 15 minutes, and want them to focus on the positive. However, parents who received frequent progress reports did not express a desire for more conferences.

Phone calls - Parents would like to receive phone calls about progress, good behavior, strengths, special accomplishments, marked improvement, particularly good work or behavior. They want phone calls about positive things. Parents also want the teacher to set times when she/he would welcome phone calls, then the parent would feel more comfortable calling.

Invitations - Parents want to be invited to visit classroom, to participate in class activities, and to feel welcome. Parents need to feel the teacher is approachable.

2. **Newsletters**

Parents want regular, frequent information about classroom learning activities. Generally prefer information regarding what children will be learning rather than information describing what they have done the past week or month. Parents felt that information about what children are learning is valuable and necessary in order to talk to their child about school and to help their child.

Parents of primary grade children prefer weekly newsletters talking about what they did the past week and announcing next week's plans and upcoming activities.

Parents of intermediate grade level children suggested monthly newsletters on upcoming learning activities, topics, methods of learning, assignments, projects and due dates.

All parents wanted information about homework policies. Parents do not know if their child should have homework (or whether having homework meant the child was not finishing schoolwork during the expected time) or whether they should monitor or help their child.

3. **Progress Reports** (written comments about child's academic, social behavior, etc.)

Parents want to hear positive things, specific comments about strengths, accomplishments, and progress.

Those parents who received handwritten positive comments about their child from the teacher gave very high marks to the teacher

Regularity of reports was seen as important otherwise parents could not anticipate or look for these reports.

Parents who receive weekly notes commented very positively about them. Parents not receiving any reports want to at least receive monthly or biweekly reports on progress. Mid-quarter progress reports in subject matter area was mentioned as desired by many parents.

4. **Helping Children at Home**

Parents want information about how to encourage their child, suggestions for fun ways to learn at home, specific activities to do at home, ideas for how to help child learn, ways to help child study or practice or review, what areas to help with and how to help.

Parents suggested montly plans about how parents can help child, refresher courses, or sessions where teacher teaches parent how to help.

This area seemed to involve the most confusion on the part of parents. They didn't know whether they should help, exactly how to help, and if they would do it wrong. It was clear that before they felt comfortable helping, they want lots of information about how children are learning and what they are learning in the classroom.

Parents comments suggest that they know little about how to help their child and receive very little guidance from teachers about how to help.

5. **Workfolders**

Parents liked receiving papers on a regular basis (weekly) with comments from teacher and provisions for comments and/or signature from parent.

Parents liked receiving their child's papers at predictable times and most importantly, liked receiving teacher's comments.

When their child's teacher sent workfolders with comments, parents responded favorably.

Summary of Parent Comments About Specific Areas

What parents liked about **DIRECT CONTACT**

Phone calls about progress, strengths, positive things, particularly good work, marked improvement, calls at beginning of year where teacher introduces her(him) self. (Phone calls were the most frequently mentioned form of communication liked by parents.)

Informal contacts at social activities, social gatherings, open houses

Like invitations to visit classroom, call teachers, participate in class activities

Like to sign tests, folders, homework, etc.

Home visits were infrequent but liked by parents when they occurred

What parents liked about **NEWSLETTERS**

Information parents liked to receive in Newsletters

- information about what children were studying
- assignments for week
- class goals for each month
- what they have been studying
- upcoming activities, topics
- dates of important tests and study/review questions
- how parents can help
- schedule of daily events
- methods of teaching math and reading
- suggestions for what to do over breaks and holidays
- due dates for projects, assignments
- ideas/suggestions about how to help child at home
- fun learning activities for home
- listing of skills to be taught
- things to talk about with child/questions to ask them
- long and short-term goals

Monthly Newsletter on activities, what they are learning and upcoming topics

Suggested extra activities to improve weak areas

Weekly Newsletter about what they did the past week and announcing plans

At end of month children prepare Newsletter of what they did

Weekly list of assignments to be signed by parent when completed

End of week report including child's work, what they've been learning, strategies used, and goals for next week

Newsletter about what children have been doing, plans, things to talk about with child, questions to ask them, what they will study, and information about special events

Advance notice about when children will be studying specific topics

Weekly newsletter detailing class activities to promote discussion between parent and child and make parent feel more relaxed about contacting teacher

Weekly schedule of what is to be accomplished and dates for work completion

Weekly Newsletter on what they will be studying and calendar of activities and studies for each month

What parents liked about **PROGRESS REPORTS**

Progress reports were liked when they included information about

- achievements and accomplishments
- child's needs
- progress in each subject
- strengths
- work completion
- positive things about child

Weekly handwritten notes by teacher received much praise

Mid-quarter progress reports

Checklist on following rules, completing assigned work on time, your child needs help in _____ area, use of time, completion of work, interaction with peers

Written progress reports weekly, biweekly--at regularly announced times

Daily progress reports when child is having difficulty

Notes about child about once a month and weekly workfolders

Weekly notes to be signed and returned

What parents liked about **WORKFOLDERS**

Weekly folder of classwork with comments on work--to be signed by parents with space for comments from parents

Workfolders with child's papers and personal note on front from teacher about child's strengths and progress

Notebooks signed to show what child has done

Homework folders every Friday

Work sent home weekly (notes attached)--the weekly bundle with comments

Weekly folder with all week's work and personal comments on progress

Weekly assignment sheets with two-way communication

Personal notes on progress were the most important part of the weekly folder

Folders (envelope) with number of papers included--parent signs and returns

Notebook for parent and teacher to go back and forth between home and school

Assignment notebook with assignments listed, notes and comments from teacher and initialed (or comments) from parent

Folder of very important papers (VIP Folder) with enclosed work

Folders each week with child's work and teacher's comments. Parent signs, writes comments and returns

What parents say about **HELPING CHILDREN AT HOME**

Parents want to know how to help child at home

Need to know what and how they are learning (topics being taught) in the classroom before able to help at home

Offer refresher course or session where teacher teaches parents how to help child

Send home information and suggestions about how to encourage child, how to help child at home, fun ways to learn at home

Send monthly plans and ideas about how parent can help

Send specific activities that parent and child can do together

Want to know more about specific areas where parents can help child

Extra practice sheets helpful

Teacher needs to ask for more help from parents

Offer suggestions for what parents can do at home to reinforce what children are learning at school

What parents say about **HOMEWORK**

Questions parents had about homework policy

Is child supposed to have homework

Is homework really work that was not finished at school but was supposed to be completed

Can or should parents help child

Need a way to know whether or not child has homework (e.g., checklist brought home daily with yes or no checked)

How long should my child spend on his/her homework. How much time is too long

Need homework calendar-assignments noted daily and signed off by parents and teacher when completed

Send home projects, light homework materials that parent and child can work on together

Have parent sign homework

More optional material at home

When homework is given as a pattern (e.g., Mon.-math, Tues.,-reading, etc.), it becomes more manageable

Make sure enough time is given for home projects and parents are informed in advance

Daily checklist on whether child finished work, paid attention and what homework

Inform parent when to expect homework--otherwise won't get done

APPENDIX D

HOME-SCHOOL COOPERATION

PROJECT EVALUATION

Survey of Teachers 1991

Question given to teachers:

A. How have you benefitted from participating in this project?

Responses from teacher participants:

1. It has helped me communicate more frequently with my parents. I have become even more aware of my at-risk children.

2. ...can gear their lessons to their abilities, and help them succeed and feel good about school. I have benefitted from the sharing of ideas of other teachers.

3. I have become more sensitive to learning styles and strengths. I have been successful with my lower ability students in raising self-esteem and achievement.

4. The organized strategies have helped me to think about what can I do better to help the children in a positive manner.

5. Especially enjoyed talking to teachers from surrounding districts.

6. Many useful ideas; enjoyed talking to teachers from other districts and buildings.

7. Having so many ideas at my disposal has been a great benefit.

8. By doing a better job of communicating.

9. I have a better understanding of the importance of and how to give the children opportunities for decision making (authority).

10. I have benefitted by just overall general knowledge about kids at-risk.

11. I have acquired several useful ideas.

12. [The strategies] have helped me to individualize the specific needs of certain students.

13. Being in the project has forced/reminded me to stay in more constant contact with parents.

14. The target areas have also been helpful in leading me to think more about what the student needs--something that is forgotten in the attempt to follow curriculum and time schedules.

16. ...made me see things differently.

17. ...seeing that there is someone else that has similar ideas as I.

18. I have gained good strategies and examples of how to better motivate students and communicate with parents.

19. ...a new method of teaching the same material.

20. I feel a closer bond to my parents. I keep to my schedule.

21. I really enjoyed doing most of the strategies and the children liked them, too. It was good to do so many positive things.

22. One of the benefits has been my own motivation! Knowing that I had a responsibility to try the strategies kept me going when I was bogged down and might otherwise have let the communication slip or relied on old ways of doing things.

23. I feel compelled to give my best to acquaint my students with the positive features included in the grouping and task/authority.

24. Classroom runs smoother...fewer discipline problems.

25. The monthly reports have assured that I am consciously applying the tactics year-round. The project itself has given me common ground with some regular-ed. teachers and therefore a chance to discuss some of the issues at it's core.

26. There are so many fabulous activities. There are lots of fun activities that make teaching exciting. Students see them as 'games' not as work.

27. [The binder] has been helpful with suggestions I have adapted. It has helped me to continue 'stretching' to reach our growing number of at-risk students.

28. The binder and its updates have been a marvelous storehouse of ideas!

29. I have gotten a wealth of new ideas as strategies to use. I have really benefitted from the meetings we've had this year. Teachers talking to teachers is great. We don't all need to reinvent the wheel!

B. How have your goals or teaching methods changed as a result of your participation in this project?

Responses from teacher participants:

1. I have altered lessons for them. At the same time I don't want my expectations to lower for them.

2. I have adapted many of the strategies (i.e., cooperative learning, individualized lessons, etc.) that teachers have shared....

3. I have higher expectations of students, I am more 'participation' oriented than 'test score' oriented, and I do much more cooperative learning.

4. Am more concerned with student involvement and parent participation.

5. More varied ideas have added interest to the class.

6. I have placed greater emphasis on group learning.

7. By being more positive.

8. I have more creative activities and projects.

9. [I try] to use it [strategies] in a way that is non-threatening to those at-risk.

10. I allow students to do more evaluating of their performances.

12. I was using cooperative learning and other things...prior to beginning the school-home strategies project.

13. I now give the students opportunities to use their authority in class situations.

14. I don't lump everyone together and have them all do [the] same thing.

15. My goals on teaching methods have not changed a whole lot because my thinking was already so in tune with this project.

16. I really have increased in volumes the home communication.

17. ...I find myself more daring in using a variety of strategies other teachers have used.

18. My students have worked in small groups and pairs more this year.

19. I feel like I'm using more variety in my teaching methods.

20. I use more group activities and group learning.

21. I've really eliminated any charts to show progress publicly--everything is private.

22. I use to do a lot of these ideas anyway, but not necessarily all year long--and four a month--now I'm constantly aware of how many and what areas I am covering.

23. My teaching methods have not changed. They have been enhanced with the variety of materials and ideas I have acquired through the project.

24. I have a much more cooperatively-oriented classroom, as opposed to a competitively-oriented classroom. I've actually started to resent it when I hear a sub or someone else say, 'Now everyone must do his own work.'

25. I have become far more interested in using cooperative learning groups.

26. I'm using group learning much more...we're doing more reading and writing and still getting through the work.

27. I have become more confident in using the coop. groups I had learned about previous to this project. I have been reassured that my projects, individualizing and peer teaching are appropriate.

28. This course has given me ideas for setting goals and expectations for myself as a teacher as well as for helping students set their own goals.

29. I now allow children to make more choices in my classroom.

30. I have set higher goals for myself because I have seen the excitement in my students eyes when we try something new. I do new activities more often.

31. I have really seen the need for the children to set realistic goals--before, I assumed I had to do much of it.

32. The program made me try things that I thought would never work. I was very happy with the outcome of these activities.

33. They have not changed drastically, but I have learned new strategies for involving students in learning in a positive way.

34. You have given me a great deal to think about. I've changed my opinion about some of your ideas, others I'm still considering.

C. How have your students benefitted from your participating in this project? Which students have benefitted most--LD students, at-risk students, others?

Responses from teacher participants:

1. ...better behavior; I feel all students have benefitted.
2. The at-risk students have benefitted the most.
3. Students have shown much more enthusiasm and motivation.
4. Students who have parents who are supportive at home have benefitted the most.
5. At-risk benefitted most.
6. All [benefitted], but at-risk and LD students are performing at a higher level than without the strategies.
7. Students are more self-confident and work together better. I think it has helped the at-risk and LD children the most.
8. I feel all have benefitted.
9. Students have experienced more interaction with other students than in past years I believe.
10. I believe at-risk have benefitted most.
11. I feel as though 'regular' kids have benefitted the most.
12. Most improvement--others, then LD, then at-risk.
13. I would say my LD kids have benefitted more.
14. I feel all students have benefitted.
15. Some of the activities were very motivational. And, I think all of my students benefitted from the project.
16. I think all my students have benefitted, not one particular group.

17. I feel the LD students have benefitted the most from the project.

18. The students take more pride in themselves and in the class as a whole. They work together as a group. The at-risk kids have benefitted most.

19. Learned responsibility of getting papers/notes home. At-risk [benefitted most].

20. I think all of my students have benefitted but mostly the at-risk, and the "quieter" students.

21. I would say all benefit, but the LD benefit more!

22. The at-risk have benefitted from adjusted expectations and special recognition.

23. Students have benefitted because their parents are aware of what and how they are doing week-by-week instead of quarterly. Unfortunately, the at-risk students are the ones who have the hardest time getting folders home and returned, so communication with those parents has been less in some cases. As far as in-class activities are concerned, LD and other low-achieving students benefit from the TARGET strategies by the group-oriented nature of many strategies and by the organizational support the students receive.

24. I feel all the students have benefitted, but those who are "at promise" children probably benefitted more. It's really hard to say.

25. I believe all students benefit from these strategies, but probably most of all the at-risk students.

26. All students benefit from numerous cooperative activities and those activities giving authority and responsibility to the child. Our at-risk students have been difficult to reach.

27. My at-risk and slower students have grown by leaps and bounds!

28. All of my students have benefitted--through a more relaxed and helpful environment in our classroom--with the use of lots more cooperative problem-solving (and less competition!)

29. The ones who benefitted the most are those students who have low self-esteem (which is not in direct correlation to their I.Q.'s). My higher functioning students who can almost, but not quite function in a regular classroom typically have the lowest self-concepts. And, I believe if all teachers used TARGET methods, my students would have better attitudes coming out of regular education.

30. Fortunately, my students are young enough that my use of TARGET methods and strategies has a positive impact on their personalities and I usually have a room full of happy kids.

31. I think all of my children have benefitted from this project. My LD and at-risk children are now more successful and are not compared to the other students.

32. Most certainly my at-risk kids benefit the most. Their effort is rewarded and they enjoy getting help from group members--it enhances their chance for success.

33. Some students have benefitted more--it seems to be those whose parents at least acknowledge our attempts to improve their students' educational experiences. These do not necessarily fall in categories of LD, at-risk, etc.

34. All children benefit, even the gifted have self-esteem problems.

35. I feel at-risk and LD students have benefitted the most. The cooperative groups have made them more at ease in the class and the rest of my class have been great models. Evaluating their own work, too, has let them realize what is looked for in a finished product.

36. I think my at-risk students benefitted the most. Their grades improved and they have taken the responsibility of school more seriously.

D. What changes have you seen in your communication with parents as a result of your participation in this project?

Responses from teacher participants:

1. ...more frequent.

2. ...they have stayed about the same.

3. I see parents focusing on and being proud/satisfied with improvement rather than perfection.

4. Parents come to expect the communication.

5. Some parents are more aware of child's needs, problems, successes.

6. Parents are more willing to help the class by rearranging <u>their</u> schedules to accompany us on field trips.

7. More positive and relaxed.

8. I have given more specific suggestions for what parents can do to help. I have become more comfortable with parents.

9. I communicate much more frequently with parents, but I've been disappointed with the lack of response.

10. Parents are more apt to call me to find out details they are unsure of after having received a letter from me. It has also been helpful in allowing the parents and myself to keep a closer watch on student progress with projects.

11. My communication has become much more specific, more frequent, and hopefully more exact.

12. Parents quite often thank me for sharing classroom ideas...

13. I've had a lot more communication in the form of newsletters. They really like knowing what is going on in the room.

14. I have communicated much more often with parents, and I have found that the communication at conference time is much easier because of the two-way written communication that has been ongoing.

15. I do know I'm more aware of the need to communicate weekly with parents, but must say I haven't received much feedback.

16. ...communication with all parents frequently, not just when there is a problem.

17. Better attendance at conferences; more help with tests, homework, projects, etc.

18. Because of the nice suggestions for parent letters--and graphics--newsletters now are easily done--and more interesting and eye-catching!

19. Communication is better--more thorough, more often and in a wider variety.

20. ...parents have expressed positive comments toward the kinds of things I do to keep them informed of classroom events and projects. Parents seem more receptive at conference time as a result.

21. It seems like an on-going year long conference with constant updating. It has changed my teaching style. I will benefit for many years to come. Also, during parent conferences, many parents indicated how the communications have made the year a pleasant experience.

22. Parents seem less hesitant to ask questions and get involved in classroom activities more readily. Now parents make time to stop in before or after school to visit and see what is happening (especially things they've seen in the newsletters).

E. What changes have you seen in parents or children as a result of your communications with parents?

Responses from teacher participants:

1. I didn't see a change in the at-risk children's parents I would hope to see after all the effort to communicate.

2. Parents...can be more involved in helping their child with schoolwork.

3. Parents see me as a partner; many of my parents work in my room weekly.

4. Students are much more on task if they know I am keeping in touch with their parents.

5. More interest in hearing from school.

6. Several at-risk students now encourage me to tell their parents about what they are doing at school.

7. Parents are more at ease.

8. Parents have made positive comments about being told ahead of time about class learning.

9. Parents are better informed of happenings in the school and specifically in the classroom.

10. I feel that with specific time schedules and parent notification neither the student nor the parent have problems or questions with due dates for assignments. I have not had any complaints about the parent not knowing when something was due. I also have been getting my studetn papers in on time.

11. They feel a part of what's going on.

12. My parents have really been helpful with their child and I don't get the comment, 'What can I do to help?'

13. The parents have come to take my communications for granted. I am not receiving as much feedback from parents but I won't stop!

14. Scores on science test improved after notes for studying suggestions went home. Students gained confidence in self after preparation.

15. I have an average of 6-8 hours of parent help per week. Parents have been wonderful about volunteering to help in the classroom. They know what we are doing, and they have offered their help as math aides, science consultants, and art project coordinators--as well as 'plain-old' helping hands.

16. Parents are much more involved in their child's education. Children produce more when teacher-parents work together.

17. More parents have contacted me concerning notes. However, it is not the parent of the high risk child.

18. I am disappointed in the lack of response of parents.

19. I hugged all of my parents after these spring parent-teacher conferences--we felt so close and cooperative this year (a first!)

20. I had an 85% turn-out for parent-teacher conferences, compared to 35% the last parent-teacher conferences. The communication that is sent home weekly to parents has been great!!!

21. Children feel more confident, independent. They are enjoying themselves--are willing to try something new. Parents feel more comfortable asking for assistance and advice. Parents notice children's new sense of confidence.

22. They are more willing to listen to criticism after I've built a positive, caring foundation. They seem to trust me more.

23. I recently had 17 out of 20 parents show for conferences. I was very pleased. My kids seem more involved with school.

24. My parents seem to be less reluctant to involve themselves with their child's learning.

25. Relationships are more personal. Parents feel as though they know you better because they read your words on a regular basis. This feeling makes personal contact more of a reality.

26. Parents are interested and appreciate the newsletter. Many parents do help study for tests, etc., because of my communication.